

CIVIC RELIEF

10.

BY

DR. JAMES BEATY, Q. C.,

EX-MAYOR, Etc.



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Toronto :

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MUNICIPAL REFORM.

GENERAL ITEMS.

1. Election of Mayor for two years.
2. Nine Aldermen at large.
3. Six to form Executive Committee.
4. Three, with Mayor, President of the Council and Treasurer (without a vote) to form Finance Committee.
5. Election of President by Council, salary treble of a Chairman.
6. All elected at same time.
7. Aldermen at large double remuneration of a Chairman.
8. Aldermen at large elected for three years ; two having smallest vote to go out first.
9. Alderman for Wards elected for two years.
10. Aldermen for Wards shall form other Committees.
11. Nominations on last Tuesday in November.
12. Election on second Tuesday in December.
13. Hours for voting extended to nine o'clock.
14. First meeting of Council on 2nd day of January.
15. General assessments to be triennial.
16. Board of assessors sit every year.
17. Courts of Revision to act every year.
18. To equalize and adjust assessments, whether appealed or not.
19. The Official Arbitrator shall be Chairman of Court.
20. Clerk of Control and Revision and Judge's Clerk shall be the same person, and not the Clerk of the City.
21. Add clauses relating to exemptions.
22. And relating to re-adjustment of Debt.
23. Powers to go through country for water-works.

The above items will require Legislative authority. The following items may be passed into By-laws by Council :

1. Heads of Departments to sit in Council (without vote.)
2. President of Council to be elected by Ballot.
3. Departments shall be six.
4. Each department to have a head appointed by the Council by Ballot.
5. Each head to appoint his own deputy and officers.
6. Council to refer complaints against—, to Board of Control, and drainage for cause only.
7. Committees of Council shall be six.
8. One Alderman to serve on one Committee only.
9. Each Committee to elect its own Chairman by Ballot.
10. Committees shall be named :—Executive, Finance, Sub-surface Works, Surface Works, Property and Health.
11. *Executive.*—Mayor : City Clerk, City Counsel and Solicitor, and all pertaining, to supervise all reports, contracts and appointments, and over-riden only by two-thirds vote of Council.

12. *Finance*.—Treasurer, Assessment Commissioner, License Inspectors, Collectors, Assessors, Debentures, Taxation, rate of, Water-rates, Licenses, Rents, etc.
13. *Sub-surface Works*.—City Engineer: water sewers, drains, steam railways, esplanade, etc.
14. *Surface Works*.—Sub-Engineer: street pavements, sidewalks, electric railways, wires, etc.
15. *Property*.—City Surveyor: houses, lands, markets, parks, fire, light, etc.
16. *Health*.—Medical Officer: pure water, sewage, closets, diseases, hospitals, plumbing, etc.
17. *Board of Control*.—A Chairman, a Permanent Officer, a Civil Engineer, and two heads or deputies, associates, as required by Chairman; or a lawyer and financial experts. The latter I prefer.
18. To take a declaration of duty.
19. All contracts (except relating to debentures), to be referred to Control by all Committees to report on necessity, nature, cost, etc., and on proposed contractors and their sureties.
20. The same as to appointments by Council, as to qualifications.
21. The Finance Committee: of schools, police, libraries, etc., to meet with Finance Committee of City, and by a majority of the whole recommend to the Executive and Council the amount to be expended in each case.
22. *Court of Revision*.—To be appointed and constituted as required by present Act. No Alderman to sit on. A Chairman and two expert land valuators.
23. First appeal to Commissioner and two of his experts as a Board of Assessors, then to Court of Revision.
24. *Board of Arbitration*.—Official Arbitrator and two valuators, as he may require. To hear cases between Corporations and Citizens.
25. Clerk of Control and Revision, a lawyer and stenographer to take evidence, etc.
26. Rules of procedure to be framed, etc.
27. *Taxes*.—Taxes to be paid to Treasurer at his office, or at branch offices.
28. All to be divided into four parts or instalments, in April, June, September and November.
29. *Estimates*.—To be prepared for the next year a week before nominations, and published.
30. Accounts of current years also to be published in the general.
31. All proceedings to be in open Committee; no personal communications with Aldermen (*quasi Judges*) allowed.
32. If found out, contract cancelled, and all damages saddled on Contractor, or offender.

NOTE.—I would prefer a Permanent Board of Control, composed of a barrister, and one engineer, and one financial expert, to receive tenders, let contracts, etc., subject to Committees and Council, requiring a two-thirds vote to reject recommendations of the Board. I was elected Alderman in 1877, advocating "Economy and Efficiency," and specially two points; the forming of the Chairmen of Committees into a Board of Control, and the payment of Aldermen. I thought the city was then too poor to pay Aldermen; and instead of the Board I established the "Executive Committee" as a "Cabinet," which has worked well for eighteen years. Only for the expense I would strongly recommend the Board of Control as indicated above, but so small an expense should not stand in the way; as the cost would be saved many times over every year. Aldermen should be relieved of the details of administration in every way possible; but the final responsibility should be in the hands of the representatives of the citizens. The items in these By-laws are taken from the Charter I prepared in 1880. There are good reasons for every clause.

CITY DEBT—LOCAL IMPROVEMENT DEBT—TAXATION— RE-ADJUSTMENT.

The following table is a condensed statement of the General and Local Improvement Debts, showing the amount of the annual maturity thereof:

MATURING ANNUALLY.	General.	Local Improvement, including City's Share.	Total.
1895.....	\$252,370 26	\$296,378 73	\$548,748 99
1896.....	455,073 33	430,273 00	885,346 33
1897.....	920,050 24	821,939 15	1,741,989 39
1898.....	156,478 66	380,674 04	537,152 70
1899.....	32,600 00	945,658 92	978,258 92
1900.....		1,044,849 23	1,044,849 23
1901.....	4,650 00	761,785 69	766,435 69
1902.....	4,000 00	653,764 63	657,764 63
1903.....	10,000 00	401,751 60	411,751 60
1904.....	614,560 00	815,743 59	1,430,303 59
1905.....	12,300 00	156,937 09	169,237 09
1906.....	905,846 66	43,932 11	949,778 77
1907.....	29,409 00	161,647 79	191,056 79
1908.....	43,860 00	23,306 35	67,166 35
1909.....	16,050 00	420,377 68	436,427 68
1910.....		698,577 03	698,577 03
1911.....	30,000 00	692,795 58	722,795 58
1912.....	17,000 00	224,543 42	241,543 42
1913.....	160,000 00	10,138 20	170,138 20
1914.....	15,000 00		15,000 00
1915.....	18,000 00	293 45	18,293 45
1916.....	10,000 00		10,000 00
1917.....	20,000 00		20,000 00
1919.....	601,674 64	61,562 42	663,237 06
1920.....		22,036 26	22,036 26
1921.....	163,957 94	38,186 66	202,144 60
1922.....	157,914 66	29,768 33	187,682 99
1923.....	152,798 00	25,652 93	178,450 93
1924.....	168,508 83	54,730 02	223,238 85
1925.....	864,003 67		864,003 67
1928.....	828,480 70	8,449 70	836,930 40
1929.....	3,597,880 03	43,427 30	3,641,307 33
1930.....	251,980 72		251,980 72
1931.....	368,143 87		368,143 87
1932.....	216,540 15		216,540 15
	\$11,099,131 36	\$9,269,180 90	
Gross Debenture Debt, 31st Dec. 1894.....			\$20,368,312 26
Add—			
Authorized but not issued :			
General.....			1,224,500 00
Total issued and authorized			\$21,592,812 26

1. The general debt of the city, which is analyzed as to purposes of issue, is as under:

General City purposes	\$ 1,234,795 57
Jail and House of Refuge	163,129 31
The new City and County Buildings. (Further amount authorized but not yet issued, \$600,000)	1,049,992 27
Volunteer Drill Shed Sites	111,589 15
The Garrison Creek sewer. (Further amount authorized, but not yet issued, \$60,000)	154,997 99
The Don River Improvements. (Further amount authorized, but not yet issued, \$125,000)	574,991 80
The Island Breakwater repairs	99,995 40
The Esplanade	921,396 57
Railway Aid. (Further amount [renewal] authorized but not yet issued, \$113,000)	1,030,717 81
Public Schools. (Further amount authorized but not yet issued, \$56,500)	1,204,739 01
Collegiate Institutes	179,035 04
Separate Schools	50,696 98
Industrial Schools	54,206 51
Public Library	60,496 80
Rosedale Ravine Sewer	137,497 95
King Street Subway. (Further amount authorized, but not yet issued, \$102,985)	127,216 64
Queen Street Subway. (Further amount authorized, but not yet issued, \$27,012)	15,000 00
Horticultural Gardens Property	50,499 38
Public Parks Improvement	145,349 86
Water-Works. (The Annual Interest and Sinking Fund charges on this debt, and the maintenance of the Department are covered by revenue from water rentals)	3,732,287 32
Ashbridge's Bay improvements (amount authorized but not yet issued, \$140,000)	
	\$11,099,131 36

2. The City's share of cost of local improvement works:

(a) Previous to the consolidation of the City debt in 1889	\$ 1,058,262 59
(b) Since consolidation	\$1,360,357.84
(c) " " Street Railway pavements	1,067,728.57
	2,428,086 41
	3,486,349 00

3. Local Improvement Debt analyzed as follows:

(a) Sewers	\$ 1,865,562 58
(b) Roadways	2,375,578 37
(c) Bridges	112,446 35
(d) Street openings, etc.	878,248 36
(e) Sidewalks	550,996 07
	5,782,831 73

Total bonded debt	\$20,368,312 09
Less sinking fund on hand, 31st Dec., 1894	3,693,500 27

Net bonded debt	\$16,674,811 82
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The following is a summarized statement of Debenture Debts and Sinking Funds on December 31st, 1894, compiled from the City Treasurer's annual statement :

Class.	Gross Debt.	Sinking Funds.			Net Debt.
		Cash.	Investments.	Total.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
GENERAL DEBT.					
City	10,675,373 36				
Yorkville	133,039 00	250,551 13	269,468 40	520,019 53	10,296,392 83
Brockton	8,000 00				
Parkdale.....	282,719 00	62,695 60	21,208 93	83,904 53	198,814 47
	11,099,131 36	313,246 73	290,677 33	603,924 06	10,495,207 30
LOCAL IMPROVEMENT DEBT :					
*City's share..	3,486,349 00	290,199 51	136,441 87	426,641 38	3,059,707 62
Ratepayers' share.....	5,352,108 66				
Yorkville	40,266 00	500,403 63	1,938,990 40	2,439,394 03	2,963,187 63
Brockton	10,207 00				
Parkdale.....	380,250 07	161,080 64	62,460 16	223,540 80	156,709 27
	9,269,180 73	951,683 78	2,137,892 43	3,089,576 21	6,179,604 52

SUMMARY.

	General.	Local Improvement	Street Railway.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.
Gross Debenture Debt 31st December, 1894...	11,099,131 36	8,201,452 33	1,067,728 57	20,368,312 26
Add authorized but not yet issued.....	1,224,500 00	.....	.....	1,224,500 00
Total issued and auth'ized	12,323,631 36	8,201,452 33	1,067,728 57	21,592,812 26
Net General Debt 31st December, 1894.....	10,495,207 30	.....	.....	10,495,207 30
Net Local Improvement Debt, 31st Dec. 1894.....	.....	5,187,767 62	.....	5,187,767 62
Net Street Railway Debt (special) 31st Dec., 1894.....	.....	.....	991,836 90	991,836 90
Total net Debenture Debt	10,495,207 30	5,187,767 62	991,836 90	16,674,811 82

*Inclusive of Street Railway permanent pavement debt, \$1,067,728.57.

From the foregoing it will be seen that the total amount at credit of the various sinking Funds is \$3,693,500, which is reported as follows:

Cash deposited in banks.....	\$1,264,930 51 .
Invested in securities (also deposited in banks).....	2,428,569 76
Total as above.....	\$3,693,500 27

GENERAL OBSERVATIONS BY TREASURER.

While the volume of the debt is large, the sinking funds annually set apart pursuant to Statute will be sufficient to pay off the Debentures as they mature, save and except the debentures authorized to be renewed under the several Consolidation Acts.

During the next ten years about six and a half millions of Local Improvement Debentures, including the City's share thereof, will mature and be redeemed, while the accumulations of Sinking Fund moneys in the meantime, applicable to the eventual reduction of the balance of this debt, will be very large.

Of the bonded debt of \$20,368,312 about \$6,000,000 is held in this country. It is gratifying to know that much of the new debt is of a revenue producing character, and of short terms of maturity. The Interest and Sinking Fund rates on the debt created for the construction of Street Railway permanent pavements, \$1,067,000, form no charge on taxation, but are met out of revenue received from the Street Railway Franchise, which is specially applied to this purpose according to Statute.

While our short-dated Local Improvement bonds are not looked upon with so much favor by investors, and consequently not so readily negotiated as the long-term bonds, there is the advantage of earlier maturity.

CITY ASSETS AND REVENUES.]

In considering the city debt, the value of the property and other assets possessed by the city should not be overlooked. The estimated value of this property, not including non-available assets, is over \$12,000,000, and a large amount of it is revenue producing. The water lots owned by the city, the walks and gardens and other leasehold property, with the Market Block, afford an annual revenue of about \$85,000, which will increase from year to year as the leases mature and are renewed. There is a substantial increase of revenue derived from rentals of city property. The differences between the City and the Canadian Pacific Railway Company having been satisfactorily adjusted, that company is now under a rental of \$11,000 per annum for the property known as the "Alternative Site," and we will receive \$5,500 from Yonge Street Wharf, making a total increase of \$16,500 from rentals. This year a number of leases of Island properties, the rent under which is now at nominal figures, will fall in. These will be renewed at higher figures, and the revenue from this source will be largely increased. Say the total revenue from the city properties, exclusive of the Water-Works, is about \$100,000, and at four per cent. represents a capital of \$2,500,000. In addition, the city derives a revenue from licenses, Police Court fines, market and weigh house fees, the street railway and telephone services (exclusive of that derived from the Water-Works), of about \$236,000. The estimated revenue this year from the Water-Works is \$445,700.

The following is a summary of the [Cash Receipts and Disbursements of the City of Toronto for the financial year ending 31st December, 1894 :

Receipts.

Bell Telephone Co., percentage of receipts.	7,883	42
Charitable grants, sundry donations.	3,577	75
City official fees.	1,888	90
Contractors' deposits.	63,000	25
Debentures sold.	1,151,670	32
Esplanade property (Yonge Street Wharf rental).	7,100	00
Firemen's Benefit Fund.	2,771	52
Industrial Exhibition Association, interest on moneys advanced.	10,390	00
Jail, Government and County grants.	8,077	01
Law Department, sundry deposits refunded.	2,500	00
Licenses :		
General	\$23,313	90
Liquor	34,244	73
		\$ 57,558 63
Local Board of Health, sundry fees.	1,707	48
Local Improvements, sundry amounts charged to various services (contra)	11,166	15
Market fees and sundry receipts.	20,608	75
Police Court fines and fees.	11,774	97
Property rentals and sundry receipts.	85,895	80
Toronto Railway Co. (new company) :		
Mileage	\$58,170	00
Percentage	76,385	70
		134,555 70
Rifle Range tickets (contra).	1,983	45
Schools, Government grant to.	18,618	00
Sinking Funds, interest on deposits, etc.	184,981	96
Tax Sale Commission, commission on lands sold for arrears of taxes.	1,943	91
Taxes	3,000,239	06
Water-Works Department :		
Rates, including City water supply	\$445,218	46
Special services, etc	4,231	67
		449,450 13
Weigh House fees.	5,920	19
Works Department :		
Sale of material, labor, etc	\$11,149	47
Private drains	8,714	42
		19,363 89
Sundry small amounts, summarized.	8,012	93
Sundry Banks, 31st December, 1894.	499,301	95
 Total receipts from all sources.	\$5,772,412	12
 Add, Cash on hand and in Banks, 1st January, 1894.	1,321,901	72
 \$7,094,313	84	
 <i>Disbursements.</i>		
Advances, Banks	\$814,654	11
Administration of Justice	32,795	03
Advertising, printing and stationery	10,955	29
Assessment Department	17,802	83
Charitable and other grants	105,447	88
Civic investigation	6,683	45
Commission	4,142	22
Contractors' deposits refunded.	67,524	25
Claims for damages	22,083	21
Crematories maintenance	12,084	09
Debentures redeemed	541,321	81
Debenture sales expenses	5,757	77
Election expenses	\$7,942	10
" " (Manhood Suffrage Act)	3,072	67
		11,014 77

Esplanade improvements.....	40,094 69
Exhibition Park.....	18,123 51
Fire Department :	
Maintenance.....	899,167 88
Water supply.....	58,147 00
	157,314 88
Inquests and interments.....	2,272 05
Island Park and improvements.....	9,831 92
Interest :	
On Debenture Debt.....	871,884 31
" Bank loans.....	33,046 30
" Deposits held by order of Court.....	1,839 15
	906,769 76
Jail.....	23,619 57
Lake Shore Road Arbitration.....	4,970 57
Law expenses.....	24,059 34
Library, Public.....	27,132 00
License Department.....	4,258 59
Local Board of Health.....	\$15,421 61
Isolation Hospital Maintenance.....	9,251 43
" " building and furnishing.....	3,416 47
	12,667 90
" " Disinfecting Station.....	2,052 01
	\$30,141 55
Markets :	
Maintenance.....	\$22,375 49
Alterations St. Lawrence Market Shops.....	2,342 00
Ground rent Cattle Market Annex.....	2,600 00
	27,317 49
Miscellaneous disbursements and smaller items summarized	\$16,321 90
Miscellaneous, members of Council, remunerations.....	7,636 51
	23,958 41
Police Court fines and fees refunded.....	5,305 32
Police Department.....	231,261 90
Property :	
City and County Building (new).....	\$306,508 94
City Registry Office, maintenance.....	1,848 66
City Registry Office, enlargement.....	3,930 34
Central Fire Hall.....	1,627 44
Public Buildings, general repairs.....	18,316 87
Fuel, gas, water, re City Buildings.....	6,731 12
Esplanade and City Docks.....	979 79
	339,943 16
Parks and avenues, exclusive of Exhibition and Island Parks.....	29,823 17
Reception of distinguished visitors.....	3,190 68
Reconsolidation of Statutes relating to City of Toronto.....	1,897 80
Rifle Ranges (new) :	
Building account.....	\$2,412 51
Ticket account (contra).....	1,983 45
	4,395 96
Salaries, municipal.....	59,903 66
Schools :	
Public Schools.....	\$374,327 00
High Schools.....	35,400 00
Separate Schools.....	34,275 00
Public Schools, building account.....	50,000 00
	495,002 01
Sinking fund investments.....	208,603 21
Street lighting.....	\$135,130 87
Parks lighting.....	2,662 61
	137,793 48
Toronto Street Railway Arbitration (old).....	2,200 86

Water Works Department :

Maintenance.....	\$173,046 64
Extensions and additions to works.....	74,625 62
New pumping engines.....	55,307 77

Rating and Revenue Branch.....	\$302,980 03
	24,794 98

	327,775 00

Works Department :

Sundry works and services.....	\$287,018 15
Local improvement works.....	247,699 99
Private drains.....	8,282 56
Street cleaning.....	\$56,753 72
" watering.....	47,633 23
Scavenging.....	52,042 64

Toronto Railway pavements.....	156,429 59
	111,787 80

	811,218 09

Total disbursements for all purposes, 1894.....	\$5,610,145 23
Add, Cash on hand and in banks, 31st December, 1894.....	1,484,168 61

	\$7,094,313 84

COLLECTION OF CIVIC REVENUES

A considerable number of citizens prefer to pay their taxes at the City Treasurer's Office rather than to the different Ward Collectors. Out of the total amount received up the end of December last on account of 1894, over forty per cent. (upwards of \$1,000,000) was paid at the City Hall, thus adding largely to my work and responsibility, and to the duties of my staff. Although such a large sum was paid at the City Treasurer's Office, the time of the Tax Collectors was fully occupied serving the bills within the time prescribed by Statute, attending to their offices during the appointed hours, looking up delinquents and collecting the arrears. The taxes of 1894 amounted to \$3,123,266, of which, at the close of the year, only 17 per cent. remained uncollected. Corporation rentals amounted to \$85,829, of which only 6 per cent. remained unpaid, and less than 1½ per cent. of water rates is in arrear for the past year. This speaks well for the citizens of Toronto, and the officers of the Department entrusted with the collection of civic revenues.

THE ESTIMATES.

The Estimates are divided into two sections—Section I. relating to capital expenditures, and expenditures to be met out of special receipts; and Section II. to works and services to be provided for out of our rent revenue and taxation. The total sum to be dealt with is near five millions of dollars, set out as follows :

SECTION I.—Items to be provided for by special receipts \$1,865,400 00
 SECTION II.—Again sub-divided into :

Sub-Section 1.—Uncontrollable Expenditure.....	\$1,770,297 00
Sub-Section 2.—Controllable Expenditure	1,290,661 00

Total as above.....	3,060,958 00

	\$4,926,358 00

The items in Section I. deal with maturing debentures to be redeemed and debentures to be issued for local improvement works and services and for Street Railway permanent pavements, etc. Under this head are also set out the estimated expenditures for local improvements during 1895, to be provided for by debentures in 1896, and the charges on the local improvement debt, the latter being protected by the special assessments under the several By-laws in that behalf.

The items in Sub-Section 1 of Section II., termed "Uncontrollable Expenditure," relate to matters of absolute requirement, such as the Interest, Sinking Fund, and other charges incident to the maintenance of the civic credit in relation to its General Debenture Debt; charges permanently fixed by By-law or Acts of Parliament, such as those connected with the administration of Justice, the removal of lunatics and the holding of inquests, the maintenance of the Police Force, the Jail, the Public, High, Separate and Technical Schools, the Industrial Schools for boys and girls, the Children's Aid Society, the Public Library, and the Local Board of Health, for which the City raises the revenue required on the requisitions of these Boards as Special Corporations. (See detailed statements in Treasurer's report.)

It will thus be seen that the Estimates, so far as the requirements under both the sections referred to are concerned, are virtually "uncontrollable," and it is over the items of Sub-Section 2 of Section II., about a fourth of the whole, that the Council has effective control.

Notwithstanding a reduction in many items, the aggregate amount of revenue other than taxation steadily increases from year to year. In 1894 the amount estimated was \$777,092, including Street Railway receipts, while for 1895 it is \$809,002. Rentals of City property (referred to elsewhere) is \$100,000, the amount for 1894 having been \$85,829. Street Railway mileage and percentage show an increase from \$136,000 to \$140,000, the sum of \$131,651 being deducted for charges on Street Railway pavement debentures.

Water-Works rentals are estimated at \$445,700, or \$9,300 more than the amount estimated for 1894.

STREET RAILWAY.

Attention is drawn to the items of Uncontrollable Expenditure under the heading "Street Railway Debt," required to meet the annual charges on the debentures issued on account of the old Toronto Street Railway Company for the purpose of constructing pavements on the track allowances, as follows :

(1) On Local Improvement Bonds, issued prior to the agreement of Jan., 1889	\$12,835 00
(2) On Bonds for pavements completed before, but issued subsequent to said agreement	9,693 05
(3) On Bonds issued for pavements constructed subsequent to said agreement	25,681 62
(4) On Bonds issued by late Town of Parkdale	1,364 64
	<hr/>
	\$49,576 31

Adding to the above the annual charges on bonds issued for pavements constructed in 1892, 1893 and 1894, under the several By-laws in that behalf, \$131,651, which is a charge upon the Street Railway revenue, the total amount to be provided to cover the charges on the old and new Street Railway Debt is \$181,273.31.

The following statement shows the revenue from the Railway Company since the present Company obtained the franchise:

YEAR.	Mileage.	Percentage.	Total.
1891 (four months)	\$18,134 94	\$22,967 10	\$ 41,102 04
1892.....	55,134 00	65,239 38	120,373 38
1893.....	56,340 00	72,234 51	128,574 51
1894.....	58,170 00	76,385 70	134,555 70
1895 (estimated).....	60,000 00	80,000 00	140,000 00

The revenue arising out of percentages payable by companies enjoying a monopoly of public franchises steadily increases from year to year. The Bell Telephone Company will, it is anticipated, pay \$8,200, as against \$8,000 last year. Street Railway payments are estimated at \$140,000, an increase of \$3,660; but the amount which will go into the general City purse, after paying interest and sinking fund charges on Street Railway debt, will be only \$8,349, as against \$81,776 last year, the construction of many more Street Railway pavements requiring that a larger sum be set apart to pay for their cost. The following statement shows the receipts from the Bell Telephone Company since the agreement was entered into in 1891:

1891 (part of year).....	\$1,172 46
1892.....	7,303 43
1893.....	7,455 67
1894.....	7,883 42

PUBLIC SCHOOLS.

The Council granted \$50,000, in 1894, to the Public School Board for new school buildings, raised by a debenture issue, with which amount twenty-five additional rooms were provided. This year the Board asks for \$61,500 further for the same purpose. It will be for the Council to say whether the money shall be provided. If I had included the amount in the Estimates it would have brought the rate up to nearly seventeen mills. It must be remembered that as additional accommodation is provided the item "rent" decreases.

CAPITAL EXPENDITURES PROVIDED BY TAXATION.

Since the refusal of the ratepayers, in 1891, to authorize additions to the debt, it has been the rule to provide out of the year's taxation for some permanent works the cost of which, previously, had been met by debenture issues. In the Estimates of the present year the proposed capital expenditures amount to over $\frac{7}{8}$ ths mill, and are as follows:

COMMITTEE ON WORKS:

New City Stables	\$ 3,000 00
Steam Road Roller.....	3,500 00
Ramp at foot of John Street.....	10,000 00
	16,500 00

WATER WORKS BRANCH :

House Services.....	\$ 2,000 00
New Engines (No. 5, balance of cost).....	27,250 00
Connecting dead ends of water mains.....	2,000 00
Laying short lengths of mains.....	3,000 00
Renewal of water mains.....	3,500 00
Removing main under G. T. R tracks.....	3,000 00
Borings for proposed tunnel.....	5,000 00
12-inch discharge pipe to drain Reservoir.....	2,115 00
New water meters.....	8,000 00
Connections between wells at Main Pumping Station.....	500 00
Hose-reel and hose at Main Pumping Station.....	500 00
Changing discharge pipe for air pumps for Engines Nos. 1, 2 and 3	1,500 00
Changing furnaces of Nos. 4 and 5 boilers to down-draught system.....	7,500 00
Re-building of old well in old Engine House.....	2,500 00
	68,365 00

COMMITTEE ON PROPERTY :

New Fire Hall on Dundas Street.....	\$5,000 00
St. Lawrence Market alterations.....	4,000 00
Additional Dock accommodation on Esplanade, between Bay and York Streets.....	1,500 00
	10,050 00

FIRE AND LIGHT COMMITTEE :

1 hook and ladder truck, ladders, etc.....	\$ 900 00
1 one-horse chemical engine.....	1,000 00
1 Merryweather steam engine.....	7,000 00
1 Ronald steam engine.....	5,000 00
1 water tower.....	7,000 00
4,000 feet of fire hose.....	3,600 00
	24,500 00

COMMITTEE ON PARKS AND GARDENS :

Permanent improvements, Exhibition Park	\$8,158 00
" " Island Park.....	3,900 00
	12,058 00
	131,473 00

Equal to over $\frac{7}{8}$ ths of a mill on the dollar of assessment.

Some variations from the above figures and the rate of taxation were made by the Executive and the Council.

ESTIMATES OF EXPENDITURE, 1895.

UNCONTROLLABLE.

DEBT CHARGES :	1895.	Estimated.
General debt.....	\$830,598	
Public Schools.....	64,662	
High Schools.....	9,973	
Separate Schools.....	2,438	
Public Library.....	2,868	
Old Street Railway.....	12,835	
		923,374
Street Railway permanent pavement expenses.....		
Administration of Justice.....	32,700	
Police Department.....	241,731	
Jail.....	23,400	
Free Library (debt charges above).....	27,269	
Industrial Schools.....	15,500	
Children's Aid Society (supplementary, 1894).....	2,500	

Toronto University.....	\$ 6,000
Public Schools (debt charges above).....	371,518
" unprovided expenditure, 1893.....	.....
High Schools (debt charges above).....	28,981
Separate Schools " "	32,349
Technical Schools.....	8,975
Hospitals.....	25,000
Local Board of Health.....	15,500
Isolation Hospital Maintenance.....	10,500
Disinfecting Station Building.....	.....
City Registry Offices Maintenance.....	1,500
Lake Shore Road Arbitration.....	.....
Provincial Election Manhood Suffrage Registration (supplementary, 1894).....	3,500
	\$1,770,297

CONTROLLABLE EXPENDITURE.

CONTROLLABLE EXPENDITURE BY COMMITTEES, ETC.	1895 Estimates.
Executive	\$195,699
Works.....	569,973
Fire and Light.....	350,191
Property	77,998
Parks and Gardens.....	58,400
Commission on Claims.....	20,000
Civic Investigation.....	7,500
Street Railway Arbitration.....	2,200
Members' Remuneration.....	8,000
Local Improvements (works assumed).....	700
	\$1,290,661

ESTIMATES OF REVENUE, 1895.

	Estimated.
Unrequired balances, excess of revenue, 1894, etc.....	\$71,459
Water-Works rentals.....	445,700
Rentals of City property, including Police Stations.....	94,057
Licenses of all kinds.....	57,000
Market and Weigh House Fees.....	25,000
Police Court Fines and Fees.....	6,500
Toronto Industrial Exhibition Association.....	5,195
Street Railway Revenue.....	8,349
Bell Telephone Company.....	8,200
Provincial Government, proportion of Crown witness fees.....	1,500
Provincial Government, proportion of cost of prisoners maintained.....	5,000
County of York, proportion of cost of prisoners maintained.....	1,000
County of York, proportion of assets payable to City on adjusted account	3,500
City Registry Office, proportion of fees to City,.....	2,000
City Division Court, fees on suits entered.....	150
City Officials, fees funded to City.....	4,000
Local Improvement transfers	9,200
Taxation.....	2,312,148
	\$3,060,958

ASSESSMENT.

ITEMS.	1894.	1895.
Assessment as fully revised.....	\$150,864,500	\$146,338,600

TAXES—COMPARATIVE STATEMENT FOR 6 YEARS.

Year.	Total Taxes.	Rate.	Percentage Paid 1st instalment.
1890	\$2,372,274	14½	49 97 100
1891	3,019,642	16½	44 29 100
1892	2,799,849	14½	49 86 100
1893	3,306,724	17½	49 95 100
1894	3,123,266	16	47 14 100
1895	3,079,715	16½	50 99 100

TAXES.

The result of the carefully prepared statements of Deputy-Treasurer, John Patterson, is as follows:—

GENERAL:

1st instalment, payable 25th July	\$1,255,785
Local Improvement Rates, payable 25th September	666,800
2nd instalment, payable 25th November	1,123,667

SPECIAL:

Machinery	\$ 5,920
Statute labor	4,306
Snow cleaning	7,292
Arrears	15,945
	33,463

Total taxes for the year..... \$3,079,715

It will be remembered that the first payment was \$1,540,753, being fifty per cent. of the total levy, while the total amount paid to date is \$1,873,883, of which sum \$867,560 was paid direct to the City Treasurer.

ASSESSMENT AS FINALLY REVISED.

\$146,338,600.

General rate—16½ mills on \$146,338,600	
assessment, 1895	\$2,378,002 00
Statute Labor Tax	2,000 00
	2,380,002 00
Probable losses, etc.	67,854 00
	2,312,148 00
	3,060,958 00

SUMMARY:

Uncontrollable Expenditure	\$1,770,297 00
Controllable Expenditure	1,290,661 00
Total ordinary Expenditure to be provided for	\$3,060,958 00

GRAND SUMMARY:

Expenditure met by special assessments	\$1,865,400 00
From above	3,060,958 00
Total Expenditure, 1895	\$4,926,358 00

CITY ASSESSMENT AND OTHER STATISTICS.

Year.	Realty.	Personality.	Real and Personal Property.	Rate on the Dollar.	Mills.	General Taxes.	Local Improvement Rates.	General Taxes and Local Imp. Rates.	Estimated Revenue other than Taxation.	General City Debt.	Local Improvement Debt.	Population.
1871..	\$ 22,037,470	7,239,665	\$ 29,277,135	15	439,157 .02	\$ 4,330 .02	\$ 447 .53	\$ 447 .53	\$ 86,000	2,732,207 75	\$ 533 .00	\$ 196,002
1872..	32,467,727	8,764,882	32,467,727	15	487,016 .58	11,495 .17	498,511 .75	89,720	2,584,351 .09	102,733 .33	102,733 .33	.....
1873..	31,924,734	12,840,148	44,764,882	12 1/2	559,561 .02	14,877 .79	577,438 .91	110,301	2,674,984 .43	122,733 .33	122,733 .33	.....
1874..	33,844,535	9,617,977	42,462,512	14	608,475 .16	21,187 .35	629,662 .51	107,500	3,934,237 .75	170,864 .33	170,864 .33	.....
1875..	36,560,652	9,945,628	46,506,280	14	651,087 .92	23,267 .18	674,355 .10	132,615	4,284,307 .74	220,884 .33	220,884 .33	.....
1876..	37,969,401	9,180,961	47,150,362	15	707,255 .43	27,861 .40	735,116 .83	136,800	5,158,071 .07	230,884 .33	230,884 .33	.....
1877..	38,716,043	8,899,140	47,615,183	19 1/2	928,496 .00	34,821 .91	963,317 .97	102,000	5,949,071 .06	322,238 .33	322,238 .33	.....
1878..	40,291,884	8,766,901	49,058,785	+20	981,175 .70	35,563 .55	1,016,739 .25	227,460	5,894,865 .27	322,238 .33	322,238 .33	.....
1879..	41,212,757	8,544,805	49,737,562	17 1/2	870,757 .33	43,239 .13	913,946 .46	267,900	6,075,791 .26	443,785 .33	443,785 .33	.....
1880..	42,024,415	8,146,484	50,170,899	17	852,905 .28	45,311 .82	898,217 .10	311,700	5,833,915 .27	465,094 .33	465,094 .33	.....
1881..	44,151,186	9,389,724	53,540,910	16 1/2	883,425 .03	46,268 .08	923,683 .11	278,240	5,922,266 .53	621,292 .33	621,292 .33	.....
1882..	45,973,366	9,985,339	55,959,339	15 1/2	867,369 .75	61,216 .06	928,536 .06	309,300	6,040,387 .46	855,251 .48	855,251 .48	.....
1883..	51,271,019	10,683,616	61,954,635	15 1/2	960,296 .84	+131,381 .55	1,091,678 .49	350,470	6,184,338 .39	788,351 .48	788,351 .48	.....
1884..	54,321,478	11,370,863	66,192,311	15 1/2	1,025,980 .82	95,292 .75	1,121,275 .57	387,980	6,473,173 .83	1,159,464 .08	1,159,464 .08	.....
1885..	60,472,589	11,563,942	68,988,531	17	1,172,805 .02	139,498 .47	1,312,383 .47	416,310	7,107,470 .57	1,112,792 .08	1,112,792 .08	.....
1886..	63,469,969	11,714,889	67,187,665	16 1/2	1,191,096 .47	147,472 .46	1,338,568 .93	452,000	7,480,833 .29	1,384,130 .52	1,384,130 .52	.....
1887..	63,919,200	15,174,128	161,093,328	14 1/2	1,311,337 .64	170,112 .09	1,481,449 .73	476,300	8,332,276 .69	1,561,346 .52	1,561,346 .52	.....
1888..	101,929,190	13,792,527	145,632,017	14 1/2	1,676,684 .24	227,709 .06	1,643,844 .46	550,708	8,814,967 .85	1,620,405 .33	1,620,405 .33	.....
1889..	122,412,077	14,475,251	136,887,328	14 1/2	1,984,866 .25	361,103 .59	2,345,989 .84	606,100	11,509,590 .95	2,583,970 .35	2,583,970 .35	.....
1890..	131,885,517	15,147,072	147,032,589	16 1/2	2,462,795 .86	511,759 .08	2,974,554 .94	620,207	10,082,373 .28	96,951,809 .90	96,951,809 .90	.....
1891..	135,919,200	13,046,708	150,833,796	17 1/2	2,190,863 .26	598,210 .54	2,784,063 .80	747,907	11,039,363 .63	11,182,353 .63	11,182,353 .63	.....
1892..	137,787,088	13,046,708	150,766,739	16	2,607,586 .17	684,364 .64	3,291,950 .83	711,873	8,267,928 .58	8,535,589 .91	8,535,589 .91	.....
1893..	12,920,361	12,946,388	12,920,361	12,920,361	2,419,520 .92	679,207 .64	3,098,727 .56	797,657	11,099,131 .36	9,259,190 .90	9,259,190 .90	.....

* Inclusive of \$3,750,000, the Assessment on Bank Stock, which has ever since been exempt. [†] 6 mills remitted under Consolidation Act, 1879, and City By-law 916. [‡] Inclusive of \$1,179,087.03 City's share of Local Special Police Census. [§] Dominion Census. ^{||} Inclusive of tax on machinery. ^{|||} Inclusive of tax on General Debt. ^{|||} Improvements previous to 1888 transferred from General Debt. ^{|||} Inclusive of tax on railway rates included.

**SUMMARIZED STATEMENT
OR
DEBENTURE DEBTS AND SINKING FUNDS
31st December, 1894.**

Class.	Gross Debt.	SINKING FUND.		Total.	Net Debt.
		Cash.	Investments.		
General Debt :					
City	10,675,373 36				
Yorkville	133,039 00	250,551 13	269,468 40	520,019 53	10,296,392 83
Brockton	8,000 00				
Parkdale	282,719 00	62,695 60	21,208 93	83,904 53	198,814 47
	11,099,131 36	313,246 73	290,677 33	603,924 06	10,495,207 30
Local Improvement Debt					
City's Share	3,486,349 00	290,199 51	136,441 87	426,641 38	3,059,707 62
R'tep'yers' Share	5,352,108 66				
Yorkville	40,266 00	500,403 63	1,938,990 40	2,439,294 03	2,965,187 63
Brockton	10,207 00				
Parkdale	380,250 07	161,080 64	62,460 16	223,540 80	156,709 27
	9,269,180 73	951,683 78	2,137,892 43	3,089,576 21	6,179,604 52

STREET RAILWAY SPECIAL. (INCLUDED IN CITY'S SHARE LOCAL IMPROVEMENT DEBT.)

Gross Debt.	SINKING FUND.		Total.	Net Debt.
	Cash.	Investments.		
\$ 1,067,728 57	\$ 75,891 67	.....	\$ 75,891 67	\$ 991,836 90

SUMMARY.

	General.	Local Improvement.	Toronto Street R'y.	Total.
Gross Debenture Debt, 31st December, 1894	\$ 11,099,131 36	\$ 8,201,452 33	\$ 1,067,728 57	\$ 20,368,312 26
Add,				
Authorized but not yet issued	1,224,500 00	.....	.....	1,224,500 00
Total issued and authorized	12,323,631 36	8,201,452 33	1,067,728 57	21,592,812 26
Net General Debt, 31st December, 1894				\$ 10,495,207 30
" Local Improvement Debt, 31st December, 1894				\$ 5,187,767 62
" Toronto Railway Debt, Special.....				991,836 90
				6,179,604 52
Total Net Debenture Debt.....				\$ 16,674,811 82

SYNOPSIS OF GENERAL DEBENTURE DEBT.

MATURING.	CITY.	YORKVILLE.	BROOKTON.	PARKDALE.	TOTAL.
1893	\$ 207,370 26	45,000 00			252,370 26
1896	417,073 33	30,000 00		8,000 00	455,073 33
1897	911,593 24	8,457 00			920,050 24
1898	137,546 66	10,932 00	8,000 00		156,478 66
1899		30,000 00		2,600 00	32,600 00
1901		4,650 00			4,650 00
1902		4,000 00			4,000 00
1903				10,000 00	10,000 00
1904	600,060 00			14,500 00	614,560 00
1905				12,300 00	12,300 00
1906	899,846 66			6,000 00	905,846 66
1907				29,409 00	29,409 00
1908				43,860 00	43,860 00
1909				16,050 00	16,050 00
1911				30,000 00	30,000 00
1912				17,000 00	17,000 00
1913	150,000 00			10,000 00	160,000 00
1914				15,000 00	15,000 00
1915				18,000 00	18,000 00
1916				10,000 00	10,000 00
1917				20,000 00	20,000 00
1919	581,674 64			20,000 00	601,674 64
1921	163,957 94				163,957 94
1922	157,914 66				157,914 66
1923	152,798 00				152,798 00
1924	168,508 83				168,508 83
1925	864,003 67				864,003 67
1928	828,480 70				828,480 70
1929	3,597,880 03				3,597,880 03
1930	251,980 72				251,980 72
1931	363,143 87				363,143 87
1932	216,540 15				216,540 15
	10,675,373 36	133,039 00	8,000 00	282,719 00	11,039,131 36
Less :					
Sinking Funds on hand.....					603,924 06
Net Debt.....					10,495,207 30

Authorized but not issued, \$1,224,500, inclusive of \$600,000 for new City and County Buildings, making total Debt \$12,323,631.36, bonded and authorized.

NOTE.—The Debentures all bear Coupons for interest, payable semi-annually. Loans issued prior to 1889 are renewable for forty years on maturity. All other loans are redeemable on maturity, since 1889, \$4,434,544.

SUMMARY.

Sterling issues (£2,167,415		
3s. 1d. sterling)	\$ 10,448,087 02	Renewable at maturity .. \$ 6,090,828 59
Currency issues.....	227,286 34	Redeemable..... 4,584,541 77
	\$10,675,373 36	\$10,675,373 36
Issues bearing interest at 6 per cent.....	\$ 3,173,490 15	
" " 5 "	677,143 98	
" " 4 "	2,422,011 46	
" " 3½ "	4,402,727 77	
		\$10,675,373 36

SYNOPSIS OF LOCAL IMPROVEMENT DEBENTURE DEBT.

MATURING.	CITY'S SHARE	CITY. RATEPAYERS' SHARE.	YORKVILLE.	BROOKTON.	PARKDALE.	TOTAL.
1895.....	\$ 148,181 36	\$ 136,736 81	\$ 1,098 00	\$ 10,362 56	\$ 296,378 73	
1896.....	219,529 81	142,434 66	1,174 00	67,134 53	430,273 00	
1897.....	248,024 52	480,491 85	145.40 00	2,007 00	76,875 78	821,939 15
1898.....	54,715 70	186,718 35	21,526 00	8,200 00	109,513 99	380,674 04
1899.....	233,553 91	686,692 79			25,412 22	945,658 92
1900.....	270,447 64	733,080 05			41,321 54	1,044,849 23
1801.....	180,499 71	581,285 98				761,785 69
1902.....	352,969 16	390,795 47				653,764 63
1903.....	214,286 86	171,744 57	1,928 00	13,792 17	401,761 60	
1904.....	682,610 28	125,856 13			7,277 18	815,743 59
1905.....	29,024 46	116,980 26			10,932 38	156,937 09
1906.....	32,113 27	5,643 84			6,175 00	43,932 11
1907.....	18,749 57	142,898 22				161,647 79
1908.....	4,079 27	11,522 70			7,284 38	23,306 35
1909.....	126,959 65	289,249 69			4,168 24	420,377 68
1910.....	155,416 72	543,160 31				698,577 03
1911.....	171,150 51	521,645 07				692,795 58
1912.....	59,003 16	165,540 26				224,543 42
1913.....	1,140 00	8,998 20				10,138 20
1915.....	80 00	213 45				293 45
1919.....	61,562 42					61,562 42
1920.....	22,036 26					22,036 26
1921.....	38,186 66					38,186 66
1922.....	29,768 33					29,768 33
1923.....	25,652 93					25,652 93
1924.....	54,730 02					54,730 02
1928.....	8,449 70					8,449 70
1929.....	43,427 30					43,427 30
Less : Sinking Funds on hand	3,486,349 17	5,352,108 66	40,266 00	10,207 00	380,250 07	9,269,180 90
Net Debt..						3,089,576 21
						6,179,604 69

Issues bearing Interest at 6 per cent \$ 288,646 00

" " 5 " 608,693 19

" " 4 " 70,608 03

" " 4 " 4,384,161 44

\$5,352,108 66

SUMMARY OF LOCAL IMPROVEMENTS.

SEWERS \$1,865,562 58

ROADWAYS :

Wooden	\$1,437,542 83
Stone	25,329 00
Cobble	13,077 88
Macadam and Granite.....	21,750 33
Wood and Stone.....	11,637 29
Wood and Cobble.....	79,725 78
Wood and Gravel	3,057 29
Asphalt	669,353 13
Asphalt and Stone.....	7,877 19
Toronto Street Railway.....	106,225 65
	<u>2,375,578 37</u>

BRIDGES :

Iron Bridges and Subways.....	\$90,474 14
Bridge and Grading.....	21,972 21
	<u>112,446 35</u>

STREETS :

Extension	\$539,892 52
Opening	78,015 19
Widening	149,292 02
Extension and Widening.....	23,164 03
Grading, etc.....	16,371 85
Opening and Widening.....	3,313 40
Straightening	23,448 61
General Street Improvement, Parkdale.....	44,750 74
	<u>878,248 36</u>

SIDEWALKS :

Wooden	\$275,112 36
Stone Flag.....	132,578 50
Granolithic.....	67,257 74
Eureka	34,141 17
Excelsior.....	28,525 82
Asphalt	13,380 48
	<u>550,996 07</u>
	<u>\$5,782,831 73</u>

TAXATION. (By the Compiler.)

Taxation for 1895, \$2,312,148.00, at the rate of 16½ mills on \$, or assessments of \$146,338,600. For year 1896, \$141,500,000.

UNCONTROLLABLE EXPENDITURE :

Interest, schools, justice, etc.....	\$1,770,297
Uncontrollable expenditure	1,290,661
Received from special receipts other than water rates, etc.....	1,865,400

Total expenditure	\$4,926,358
Above sums.....	\$1,770,297
"	1,290,661
	<u>\$3,060,958</u>

Taxation.....	\$2,312,148
Other receipts from water rates, rents, etc... 748,810	
	<u>\$3,060,958</u>

SPECIAL RECEIPTS :

Debentures sold	\$1,151,672
Interest on sinking fund	184,981
Local improvements, debentures, etc.	528,747
	<hr/>
	\$1,865,400
	<hr/>
	\$ 4,926,358

TOTAL DEBT :

General gross debt, 31st Dec., 1894	\$20,368,312
Authorized interest paid	1,124,500
	<hr/>

Total	\$21,592,812
1894, Dec. 31st, net general debt	\$10,495,207
" " net local " ".....	5,187,767
" " net Street Railway debt	991,836
	<hr/>

Total net debt	\$16,674,811
Sinking Fund	3,693,500
	<hr/>

Gross debt as above	\$20,368,311
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GROSS GENERAL DEBT :

1894, Dec. 31; Debt	\$1,099,131
" " Street Railway.....	1,067,728
	<hr/>

Total Debenture Debt.....	\$12,166,859
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LOCAL IMPROVEMENT DEBT :

1894, Dec. 31, Gross Local Debt.....	\$8,201,452
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SINKING FUND :

Cash Deposited in Banks.....	\$1,264,931
Invested in City Debentures.....	2,428,569
	<hr/>

Bearing an average rate of 3½ per cent. Interest.	\$3,693,500
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In other words, the City owes itself nearly \$2,500,000, or now about \$3,000,000. If the City's credit were lost, and their Debentures had to be sold, they would stand on a par with a new issue, and be in no better position. A sinking Fund is being provided to meet them; and the interest payable upon them yearly is to that extent a payment out of the right hand into the left. The outstanding Debentures in the hands of outside holders, are no better security than without the Sinking Fund, unless it should be said the Debentures are to the extent of their value collateral, and to that extent would make a percentage of the deficiency in value, in case the General Debentures diminished in value.

The actual security for the Debt, apart from taxation, is abundant, equal to \$19,493,515; although the annual Revenue from Real Estate would not be equal to the Interest.

Take the General Gross Debt, \$12,166,859.

Deduct Sinking Fund \$3,693,500

Deduct Water-Works Debentures Debt, which pays Revenue, \$149,450 a year, or more than 8 percent, and covers all expenditure..... 3,732,287

Deduct Street Railway Debt, which pays \$140,000 a year, or more than 7 per cent..... 1,067,728

Deduct Sinking Fund Interest, \$184,981, more than 5 per cent on..... 3,673,344

 \$12,166,859

These items are all outside of taxation, and may be regarded as cont'nuous, and increasing from year to year. This security for the debt, with the actual assessed value of available Real Estate (which does not include parks, markets, and other ornamental or necessary property), equal to \$12,000,000, make a security, "gilt edged," both as to the Principal and Interest.

Leave the Interest on the Sinking Fund, the Water Works, the rates being, nevertheless, a species of Taxation, and the Street Railway Revenues, as being equivalent to the debt, there still remains the demand for annual general purposes to be met. We would then start without a General Debt.

We have, then, to look for the means to meet the demands for the General Purposes of the C ty. The requirement for the General debt was \$830,598. This is already provided, and is now left out. The Uncontrollable charges, apart from that sum, are..... \$939,699

CONTROLLABLE EXPENDITURE :

Works.....	\$509,973
Less water.....	327,775

	\$242,198
Other Expenditure.....	720,688

	\$ 962,888

Receipts from various sources.....	\$1,902,575

	285,561
Various expenditures.....	\$1,617,014

	400,274

	\$2,017,288

This sum of \$2,017,288, I make out as necessary to be raised by taxation. The actual amount raised for 1895 was \$2,312,864, a difference of \$295,576. Fifteen mills on the assessment, \$141,500,00', for next year, would produce \$2,122,500. If the Sinking Fund were utilized, as it ought to be in the present emergency, that amount ought to be substantially reduced.

During the year 1879, by Ont. Stat. 42 Vic. Chap. 75, (see also 52 Vic. (1889) Chap. 74) under an emergency of a similar character to the present, the Council of that year—the first year I was Mayor—reduced the Sinking Fund to three-quarters of one per cent., and gave a lien on certain city properties specified. The amount of debt to which the city was limited was \$6,000,000, which might be increased after the assessment was \$50,000,000 by eight per cent. of the increase from time to time. That Act seemingly requires amendments to meet the difficulties of the present situation. The general line to follow, and the general result would be as follows :

Take the General Gross Debt	\$11,099,131
From which deduct part of the Sinking Fund.....	2,099,131

Leaving a debt of.....	\$ 9,000,000
The total Sinking Fund amounts to.....	\$3,693,500
Deduct above	2,099,131

Surplus	\$1,594,369
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to pay for water-works and trunk sewer. Strictly speaking, in the General Debt, the Sinking Fund already provided is only \$603,924; the balance, \$3,089,576, being provided against the Local Improvement Gross Debt, \$9,269,-

180, leaving the Local Debt \$6,179,604. So much by way of general illustration, however.

The justification for this course is the necessity of the case, and the fact that the \$9,000,000 General Debt would be collaterally secured by the lands of the city, and of course ultimately by general taxation. It was done somewhat in the same way before, and for ten years the city advanced rapidly.

Deduct the whole Sinking Fund from the	\$11,099,131
Say	3,693,500
Leaving the Debt.....	\$ 7,405,631

or otherwise cancel the City's Debentures, held for the Sinking Fund, and let the debt be the actual amount (secured by the City collaterals), and raise money as required for Water-Works, &c. This course is unnecessary, as there is on hand, in cash, \$1,264,930. If the Sinking Fund were invested in outside securities, there might be some reason to object to such a course; but as the City owes the Sinking Fund, what good reason can there not be to make the best use of it, especially as the holders of the Debentures are no worse off, except in one very unlikely event, the Insolvency of the City, when those Debentures would be, to the extent of their value, a source of revenue to meet any deficiency in the value of the direct Debentures held by the creditors. They have available assets, or should have, in such case, to the amount at the present of \$12,000,000, with a reasonable prospect of improvement, and they never lose the recourse to a general levy on all the citizens' property. With the Special and General security, there is no need of providing a Sinking Fund for at least five or ten years; and on a share of the Debt, the Sinking Fund should not commence to be accumulated for at least ten or may be twenty years. On all permanent outlays this course should be adopted; the interest only to be provided for annually. There might then be a saving in general terms on items as follows:

Jail and House of Refuge.....	\$ 163,129
City Hall and Court House, say.....	1,649,992
Drill Shed Sites.....	111,589
Garrison Creek Sewer	214,997
Dou River Improvements.....	699,991
Island Breakwater.....	98,995
Esplanade.....	921,896
Railway Aid	1,143,717
Public Schools	1,259,739
Collegiate Institutes.....	179,035
Separate Schools.....	50,696
Industrial "	54,206
Public Library	60,496
Rosedale Ravine Sewer	137,497
King Street Subway.....	230,204
Queen Street "	42,012
Horticultural Gardens.....	50,499
Public Parks.....	145,349
Water-Works	3,732,287
Ashbridge's Bay	140,000
City's Share of Local Improvements.....	3,486,349
	<hr/>
	\$14,373,665

Why should the present inhabitants be forced now to pay this debt, a debt incurred for the items indicated, every one of which will serve the purposes of the City for from thirty to one hundred years or more?

DEDUCTIONS FROM TAXATION.

$\frac{3}{4}$ of one per cent.....	\$109,302.
Interest on the difference in the Debt, if readjusted amounting to \$5,573,665, at four per cent....	222,946

The "Consolidated Secured Debentures" should be renewed from time to time as they may mature; stating in them when a Sinking Fund will commence, and at what rate. Have no short-date Debentures. They will sell better and be more sought after at long dates, and in such case the interest should be as low as possible, but sufficient to make them freely saleable. A limit to the extent of the debt should be a part of Legislation necessary to authorize such an adjustment. There might be specific debts named, such as the Water-Works, the Railway Aid and Street Railway, amounting in themselves to \$8,210,472, or nearly the total General Debt, as readjusted.

Add to the deductions above.....	\$332,248
15 mills on the dollar on exemptions \$20,000,000 =	300,000
Or one-quarter of the general annual taxation as at present assessed and imposed, namely \$2,312,148.	\$632,248

LOCAL IMPROVEMENTS DEBT.

The gross local debt is \$9,269,180. The policy of late years has been to force the payments for local improvements as fast as possible. There is no practical sense in this procedure. Why should the owners of property having an asphalt or permanent roadway, be obliged to pay, on the local improvement principle, in five years, when the roadway may last twenty years. There ought to be some reasonable discrimination in this matter. Why should the property owners be obliged to pay \$3,919,773, or nearly four millions, or one half of the whole Local Debt in the next five years? There is an injustice in this that ought to be remedied. The interest on this for five or even ten years, without any Sinking Fund, would be burden enough, and, in view of the nature of the work, reasonable enough. In the next five years thereafter, nearly \$3,000,000 mature, and the next seven years thereafter, nearly \$2,500,000.

The Gross Debt is.....	\$9,269,180
Sinking Fund.....	3,089,576
Net Debt.....	\$6,179,604

The General Debt should be adjusted on its own basis, with a Sinking Fund of only \$603,924. At all events the Local Improvement Debt must get the benefit of the Sinking Fund as above paid in on that account. A postponement of the maturing debentures for new periods of years, extending over ten to twenty years, with no Sinking Fund for five years, would be a marked relief to the property owners. The debentures have the direct security of all the property benefited by the improvements, and the ultimate guarantee of the city, which gives the bonds, and becomes the collector for the holders of the debentures.

The deduction of the Sinking Fund rate for five years, then to be distributed over ten or fifteen years more, would be a noticeable relief, and ease off the burdens of the present owners, under the present depressed state of real estate values. The present holders of the debentures would be just as safe, and they would not be under any obligation to purchase the new ones, and yet there is no

reason to doubt the saleable character of the debentures on any market, when it would be well known they were backed by such direct local security, and by the whole city guarantee. The system of local improvements would also require to be put on its original footing, requiring the property owners to initiate by petition for the work, and not have it started in the engineer's office by the petition of a few interested parties, whose interests would not necessarily coincide with the general owners of the property to be encumbered. The Sinking Fund rate for the next five years, by a rough estimate, would reach a large sum, and if removed would on each tax bill be a marked deduction. This would help the owners out of their burdens, and do no substantial harm to any one.

The total Local Debt is.....	\$9,269,180
Sinking Fund for same.....	3,089,576
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Leaving city to collect debt.....	\$6,179,604

Strictly speaking this debt ought to get now the benefit of the whole Sinking Fund provided to meet it. It ought to get more. It is not equitable nor just that the inhabitants of a certain street, say Jarvis street, which has become one of the most used thoroughfares in the city, by all classes, and from both country and city, should not only construct an asphalt pavement and stone sidewalk, or one equally as good, and also pay their share of keeping it in repair. The least that ought to be done for them is to exempt them from the annual repair account, and that would only be a minor advantage in such case. Substantial justice, taking the facts as they are, is all that can be hoped for. Justice in the particular, or justice in specified cases, cannot be done in the general. Exact justice is out of the question. In the present condition of affairs the correct position would be instead of deducting the Sinking Fund from the General Debt, deduct it from the present Local improvement Debt, and change it to the General Debt; and then the account would stand as follows:

Gross General Debt.....	\$11,099,131
Less Sinking Fund for same.....	603,926
<hr/>	
Net General Debt	\$10,495,207
Local Improvement Debt.....	\$9,269,180
Less Sinking Fund for it.....	3,089,576
<hr/>	
Total net Debenture Debt.....	\$16,674,811

The Local Debt—\$6,179,600—must ultimately be paid by the local rate-payers and city as to its share of same.

The General Debt would then be equal to.....	\$13,584,783
And Local Improvements.....	3,090,028
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Total debt of City.....	\$16,674,811
Less always when paid by the local Ratepayer and City on the improvements.....	6,179,604
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Total General Debt.....	\$10,495,207
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Deduct the Local Debt and Total Debt is \$13,584,783, just about double the debt of fifteen years ago. The population then, according to the Dominion Census, was 86,415, and in 1890, ten years after, it was 181,220, and now, in

1895, say 190,000, an increase of over 115 per cent., while the debt, on the above basis, has increased from \$5,853,915 to \$13,584,783, 132 per cent. The population has nearly kept pace with the debt. The assessment in 1880 was \$50,170,899, and the rate of taxation, 17 mills in the dollar; and in 1890, the assessment was \$136,887,328, and the rate 14½ mills in the dollar; and for 1895, the assessment was \$146,338,600, and the rate 16½ mills in the dollar. The assessment has increased in the 15 years past \$96,167,439; or, taking the assessment made in 1895, \$142,500,000, over \$90,000,000 increase. The debt, in round numbers, has only more than doubled, while the assessment has nearly trebled, and the rate of taxation is nearly the same. The system of assessing values, as at present, up to nearly the highest point, is different to the old system, when possibly two-thirds or three-quarters of the value was then only assessed.

The above figures show that creditors need not be alarmed. When against that General Debt, available city assets of \$12,000,000 are put, the charge on taxation is not more than reasonable and moderate. The Sinking Fund being a debt now due by the general taxpayers and the local improvement taxpayers, and as the Sinking Fund is invested in City Debentures, lying in a bank safe, what difference does it make? If the Sinking Fund Debentures are to be paid when they mature, where is the cash, or the outside securities to realize from, to meet those Debentures? It can only be done by a sale of Debentures, or by a greater taxation. Where has the money gone, which the Sinking Fund Debentures represent? It must have been used up also! And when, and for what purpose? The Debentures are on hand, then sell them and credit the proceeds to the present net Sinking Fund, and do some justice to the local improvement taxpayers.

DEBENTURES AUTHORIZED NOT ISSUED.

City Hall and Court House.....	\$ 600,000
Garrison Creek Sewer.....	60,000
Don River Improvements.....	125,000
Railway Aid	113,000
Public Schools	56,500
King Street Subway.....	102,988
Queen Street Subway.....	27,012
Ashbridge's Bay Improvements	140,000
	<hr/>
	\$1,224,500

PERMANENT WORKS.

Of the \$5,782,831 Local Improvement Debt, \$2,000,000 may be said to be not permanent. The sewers, stone and asphalt pavements, bridges, and other items, are all improvements that will endure from fifteen to twenty years.

PRESENT SITUATION.

Annual Taxation.

15 mills (and it never should be more) on \$142,500,000 = \$2,137,500	
Labor taxes	2,000
15 mills on land, etc., exempted (not including buildings, churches, etc.) \$1,635,763 =	24,535
Cash Deposit, Sinking Fund, received on \$1,264,430, interest at 3½ per cent.....	44,372
	<hr/>
Taxation 1894 (16 mills).....	\$2,203,407
	<hr/>
16 mills would practically make it even,	2,352,406
	<hr/>
Decrease	\$ 143,999
16 mills would practically make it even,	142,500
	<hr/>
	1.499

LOCAL IMPROVEMENTS—DEBENTURES PAYABLE.

From 1896 to 1899 inclusive, Sinking Fund L. I. in	\$2,578,545
City Debentures	2,428,569

Pay off out of Cash Deposits	\$ 149,976
	149,976
This will lift the burden for four years.	
Cash Deposits	\$1,264,930
Less above sum	149,976

Cash on hand for water-works, etc	\$1,114,954

These figures include the city's share as well as the ratepayer's share.

This scheme would give the citizen's relief from all Local Improvement taxes for four years. From that time the period for payment should be extended over ten or fifteen years, when all the taxes should be collected to meet all the debentures, even those which do not mature until 1929. The residue for fifteen years would be \$6,394,258, or an average of \$426,284 a year. As now arranged, they run from \$815,743 in 1904 down to \$293,000 in 1915, and for twelve years, no one year exceeds \$61,562 in 1919 (see table). As it is, after the year 1912 the highest figure in one year is \$61,562, during ten years successively, so that after seventeen years new pavements when necessary could be put down.

There still remains the re-adjustment, which would not meet decided objection from the general tax-payer, as distinguished from the local tax-payer; and that is, merely grant an extension to the local rate-payer, and give him time to breast his present difficulties. Take the first four or five coming years, added to the heavy payments in the next five years, extending the whole, or the residue unpaid of \$6,394,258, over 15 years after the first five years, and spreading it over the 15 years, it would require \$426,284 and the interest each year to pay off the whole local debt now due. In 20 years the whole debt would be paid, instead of requiring 34 years to pay it all, although during the later years the amount now maturing each year is small.

Take still another view, and confine the whole adjustment to the local tax-payer, and leave out the City's share altogether. We find the City's share, or corporation share, of the \$9,269,180, is \$3,486,349, or, say one-third. The City's share for the next five years is \$1,026,268, and the local share is \$2,229,415; of the gross \$9,269,180, the City's share was \$3,486,349; and the local share was \$5,782,831. Against both is the Sinking Fund of \$3,089,576. Of this Fund, \$2,059,718 is the local tax-payer's, and \$1,029,858, is the City's. The \$2,059,718 would nearly pay the four years, \$2,578,544, without any demand on the general tax-payer. Then deal with the residue as previously indicated, or commence the payments again in the year 1901.

MILEAGE OF SEWERS AND STREETS.

Sewers, total length of	227.74 miles.
Streets " "	253.48 "
Cedar blocks	111.16 miles.
Asphalt	13.70 "
Macadam	35.05 "
Unpaved	79.98 "
Cedar with asphalt	6.35 "
" " brick	4.50 "
Other kinds	1.84 "

Sidewalks from 1889 to 1894 inclusive, have been constructed, 209 mls.

ASSESSMENTS.

Lands.	Buildings.	Real.	Personal.	Income.
For 1895 ..	\$79,559,274 ..	\$55,893,819 ..	\$135,453,093 ..	\$8,871,715 ..
" 1896 ..	73,763,114 ..	55,839,107 ..	129,602,221 ..	8,181,588 ..
Assessments 1st Oct., '94-1895.	Total		\$149,054,951	
" 1st Oct., '95-1896.	"		142,464,140	
				Decrease. \$ 6,590,811

chiefly on Real property. The reduction on Personality arose from a decision of the C.C. Judge, McDougall, in connection with the Electric Companies: that a larger share should be assessed as Real Property. A considerable item was also taken off incomes. The lessened dividends of Loan Companies alone amounted to \$150,000. Non-assessable incomes were also increased from \$400 to \$700.

EXEMPTIONS

For 1895	\$23,652,308
" 1896	23,313,578
Assessment for 1896 not yet finally revised.	
Total exemptions for 1878	\$ 9,073,176
" " " 1896	23,189,524

Increase in 16 years..... \$14,116,348

In 1894, the total exemption of Church property was as follows:—

	Land.	Buildings.	=	
Protestant Churches	\$1,436,221	\$2,644,893	=	\$4,081,116
Roman Catholic	199,542	522,900	=	722,442
Total	\$1,635,763	\$3,167,793	=	\$4,803,566

DIFFERENT CLASSES OF EXEMPTIONS OF REAL PROPERTY FOR THE YEARS 1878 AND 1894.

Nature of Exemption.	Year 1878.	Year 1894.	Increase.
Dominion Government	\$1,051,333	\$ 1,991,576	\$ 940,243
Ontario Government	2,489,170	4,900,551	2,411,381
County of York	123,692	144,520	20,828
Charitable Institutions	303,347	1,298,235	993,888
Protestant Churches	1,599,378	4,081,114	2,411,736
Roman Catholic Churches	279,167	722,442	443,275
Separate Schools and Roman Catholic Corporation	377,374	994,721	617,347
City Property	1,160,399	5,436,021	4,275,622
Universities and Colleges	1,577,466	3,231,320	1,653,854
Burying Grounds	41,850	389,024	347,174
Total	\$9,073,170	\$23,189,524	\$14,116,348

Under the Machinery By-law, exemption amount to \$1,689,395.

Every aid and inducement possible should be given, equitably, of course, to persuade capital in cash and factories to come into the city.

The *Globe* says:—"Jonah's gourd did not grow with greater rapidity than did the school expenditures of Toronto during the past decade. The Board forwards to Council some such return as that presented by Mayor Kennedy in his inaugural of 1894, wherein it is shown that in the year 1889-90 it cost but \$9.45 per pupil in Toronto for teachers' salaries and current school expenses, compared with \$15.11 in Detroit, \$15.24 in Albany, \$15.56 in Brooklyn, \$15.87 in Buffalo, \$16.06 in Newark, and higher sums in other cities, ranging up to \$27.86 in cultured Boston, and \$32.13 in St. Paul.

"In the following tables the cost of the night schools is not separated from the general cost, and the cost per capita of registered pupils is somewhat above the amount that would be shown were the sum expended for night school instruction given separately.

	Cost of maintenance from taxation.	Average registered pupils.	Cost per pupil.
1887.....	\$190,414	16,874	\$11 28
1889.....	259,000	21,218	12 20
1891.....	321,834	24,304	12 23
1893.....	377,565	24,771	15 24
1895.....	371,518	*26,100	14 18

*Average of year to end of September.

"It will be observed that in school expenditure on maintenance account, as in all other departments of civil service, 1893 was high-water mark.

"The increase of \$2.90 per pupil in the cost of school maintenance, heavy while it is, does not represent the total increase in the cost of education during the period under review. The taxpayers have been paying through the nose for permanent improvements. Since 1887 the erection of new schools and the enlargement of existing ones has added \$812,000 to the city debt, an enormous total, which was hardly justified even by the expansion of the city. The following table giving the cost of the schools to the taxpayer, inclusive of debt charges, shows the result :

	Expenditure including debt charges.	Cost per head of population.	Cost per registered pupil.
1887.....	\$219,049	\$1 84	\$12 93
1889.....	305 450	2 19	14 39
1891.....	392,078	2 34	16 13
1893.....	442,000	2 61	17 84
1895.....	436,180	2 50	16 64

"The practical conclusion is that, admitting that there are thirty-five thousand householders in Toronto (and the real is slightly under that number, the proportion of cost of elementary education borne by each householder has increased \$3.30 per year since 1887, and now stands at the total of \$12.50 per year.

"But if the cost of Public School education has increased too rapidly, that of High School education has far overtopped it. Here is a statement showing the development of High School expenditure met out of taxation, the figures including debt charges :

	Expenditure from taxation.	Number of pupils.	Cost per pupil.
1887.....	\$10,295	334	\$30 82
1889.....	26,574	477	55 71
1891.....	30,865	641	48 15
1893.....	58,796	843	69 74
1895.....	52,504	*956	54 92

*Latest return.

"The city has used the pruning knife with vigor upon the High School estimates since 1893, but they are still far too high. Higher education is a luxury which only the comparatively well-to do can afford.

"Inflated assessment has been the handmaid of high taxation. In 1887 the citizens of Toronto were taxed for all purposes \$12.51 per head, the tax rate being $15\frac{3}{4}$ mills. In the present year they are taxed for all purposes \$17.03 per head, yet the tax rate is only half a mill higher than in 1887. It would be possible with the present assessment of Toronto to tax the people as much per head as they were taxed in 1887 for general purposes on a rate of $13\frac{1}{3}$ mills now, as compared with $15\frac{3}{4}$ mills in that year. Here is the position of affairs in a nutshell:—

1887.— $15\frac{3}{4}$ mills equalled \$11.08 per head of population.

1895.— $13\frac{1}{3}$ mills equal \$11.08 per head of population.

"Mr. Maughan justifies the increased assessment with the statement that there is hardly a case where the assessment of vacant land was not far overtopped by the prices obtained in actual sales during the boom period. He followed values rather than forced them. In 1889, the Legislature, at the city's request, changed the safe debt limit of the past to one under which the corporation could incur debt, exclusive of water-works and local improvement debt, to the amount of $12\frac{1}{2}$ per cent. on the first hundred million of assessment, and eight per cent on all assessment above that amount.

"The experience of Toronto is sufficient warrant for the adoption of a general law regulating municipal indebtedness, making six per cent. of the valuation the outside debt limit, except for the purchase of waterworks, gas plant, or similar revenue-producing works or services.

"The following tables show the increase of the assessment during the period under review. To a proper understanding of the decline in the assessment of personality it must be remembered that during the period dealt with the exemption of income from taxation has been increased from \$400 to \$700. Formerly a citizen earning \$700 a year and over had to pay taxes on all over \$400. Now he pays taxes only on all income received in excess of \$700 yearly. For the encouragement of manufacturing, machinery has been exempted from taxation, the reduction assessment on account of this item being very considerable:—

REALTY.

	Assessment.	Assessment per head.
1887.....	\$ 69,469,969	\$586
1889.....	101,929,190	730
1891.....	131,885,517	787
1893.....	137,787,088	814
1895.....	133,547,442	766
1896*.....	129,602,221	732

*Before revision, which will reduce it to at least \$1,000,000.

PERSONALITY AND INCOME.

	Assessment.	Assessment per head.
1887.....	\$13,789,564	\$116
1889.....	13,702,827	98
1891.....	15,147,072	91
1893.....	13,046,708	77
1895.....	12,880,780	73
1896.....	12,961,919	72
		Total assessment per head.
1887.....		\$702
1889.....		828
1891.....		878
1893.....		891
1895.....		839
1896.....		804

"The fact that personality assessment, which in 1877 was almost a sixth of the total assessment, is now less than an eleventh of the total, is a striking one, and bears out the general belief that much loose swearing is indulged in as to the value of personality and the amount of income.

"In summing up the facts presented in former articles regarding increase of civic expenditure we are forced to the conclusion that the increase of taxation from \$12.51 per head of population in 1887, to \$17.03 in 1895, has been due to reckless expenditures upon capital account, rather than to undue increase in the cost of maintenance of the services of the city. Scavenging costs 12 cents per head more than in 1887, street cleaning and watering 22 cents per head more, fire brigade 5 cents more, police 4 cents more, and lighting under the contract coming into force in January, 14 cents less than in 1887. These services cost but 34 cents more per head yearly than they did in 1887. Where does the great increase of \$4.52 per head in taxation go to? The answer to the debt charges, which in 1887 were \$5.75 per head of population, and now \$10.15 per head yearly.

"The following tables illustrate the increase of debt and of debt charges since 1887:

DEBT OF THE CITY.

	Population.	Total net debt, local and general.	Net debt per head of population.
1887.....	318,493	\$ 7,895,708	\$66 68
1889.....	139,452	8,926,887	64 01
1891.....	167,439	12,769,508	76 26
1893.....	169,099	16,587,811	98 08
1895.....	174,308	*16,674,811	95 66

* The net debt on 1st January last consisted of \$10,495,207 of general debt, \$5,187,767 of local improvement, and \$991,886 of street railway debt.

ANNUAL DEBT CHARGES.

	Total.	Per head of Population.
1887.....	\$ 680,905	\$ 5 75
1889.....	884,163	6 34
1891.....	1,305,243	7 89
1893.....	1,544,293	9 13
1895.....	1,770,025	10 15

DEBT CHARGES IN DETAIL.

	General.	Local.	New street railway
1887.....	\$495,905	\$185,000	.....
1889.....	583,363	300,000	.....
1891.....	785,243	520,000	.....
1893.....	829,759	660,000	45,574
1895.....	923,374	715,000	131,651

"This year's estimates provide for local improvement sinking funds amounting to \$450,000, general debt sinking funds of \$250,910, and street railway sinking funds of \$88,942, in all a total of \$789,852, contributed out of the revenues of 1895 toward the redemption of the city debt.

"Since 1887 our debt has been increased from \$66.68 to \$95.66 per head, mainly for local improvements, or as a result of the undue expansion of the city. The annual debt charge has increased from \$5.75 to \$10.15 per head. General taxation has increased from \$11.08 per head in 1887 to \$12.93 in 1895. It has receded \$1.20 per head since high-water mark in 1893, and gives promise of steady reduction in future. Local improvement taxation, which is really the debt charge on local improvement debt, has been increased from \$1.43 per head in 1887 to \$4.10 per head in 1895."

THE WATER-WORKS.

BRIEF HISTORY OF WATER-WORKS.

About 1842, Mr. Albert Furness undertook to supply the City of Toronto with water, for the purpose of extinguishing fires. His contract covered a period of twenty-one years. In 1851, he sold the works to the Metropolitan Water Company ; of which, Hon. M. Killaly, President ; James Beaty, Sen.; Thomas Woodside and others were interested. Mr. C. A. Stotesbury was Manager, and the writer was Secretary. The price was £22,000. They were afterwards retransferred to Mr. Furness, who transferred them to the city in April, 1873. He offered them to the city for £35,000. They were then a paying concern. An unsuccessful effort was then made to construct works by the city. The effort was renewed every now and then, on the ground of an insufficient supply and the impure quality of the water. In 1857, Mr. T. C. Keefer, C.E., was authorized by the City Council to prepare plans, etc., for water-works for the city. This was laid before council in June, 1857. It may be said here, that the Metropolitan Water Company, had, in its time, a report from Mr. Walter Shanly, C.E., now M.P., in which he recommended the Scarborough Heights direction as the proper place to secure the water from.

It has been alleged, I do not know how true it is, that Mr. Keefer would not approve of anything in engineering, which Mr. Shanly recommended, so that, when he came to consider, he found his source of water, from over the Bay. That has been the allegation ; whatever the ground of it was, but as both gentlemen are still alive, they can, if it is deemed of sufficient importance, say how the fact was. Mr. Walter Shanly and his brother, Mr. Frank Shanly, who was City Engineer, in 1879 and 1880, when I was Mayor, constructed the Hoosac Tunnel, the greatest work of the kind, that had to that time, been undertaken. If Mr. Walter Shanly's services could now have been obtained, there was no need to go out of the country for engineering skill, in so simple a matter. Apart from that, I could name, without taxing my memory very much, a half dozen engineers, who could have been consulted without going across the ocean. Mr. Keefer, I think, did not altogether ignore the advantages of water from the lake, east of Scarborough Heights.

In 1872, an Act of the Legislature was obtained and Commissioners were appointed to overlook the work. Namely, Hon. G. W. Allan, Samuel Platt, Robert Bell, Joseph Sheard, Mayor. John Greenless ultimately took the place of Mr. Worthington, and various Mayors, during the time of the Commissioners took their places on the Board.

Various schemes were considered, water from the Don and Humber rivers ; from Bond Lake ; from Lake Simcoe and Lake Ontario. They finally adopted Lake Ontario. As to Lake Simcoe, they found, a pipe sufficient to convey water, would cost, at least, delivered in Toronto, \$3,000,000. The pipe they estimated would have to be sunk in the earth 900 feet, for several miles through the "ridges," the highlands forming the water shed, to Lake Ontario and to Lake Simcoe north. They concluded the water in the Bay was unfit for use ; and along the south shore of the Island, and to the Humber in the west, and the promontory of Scarborough Heights in the east ; the water,

especially under the influence of southerly winds, would be muddy and not adapted for drinking purposes, and that they would require to go into the lake about two miles from the shore. There were two methods of getting water then considered ; one to pump, as now, from the lake to an elevation, north of the city, or to form filtration basins on the Island, and then draw the water from the basins. They considered the first scheme too expensive, and sought to carry out the filtration scheme. Mr. Keefer was again called in, with Mr. Chesbrough, C.E., of Chicago, and they recommended the basins. Near the Lighthouse a basin, 500 feet long, by 150 feet wide, was made, the water then to be carried to a point between John and Peter Streets, and into the distributing pipes, as it was carried by a basin pipe up to the hill at the north of the city. On the hill an overflow reservoir was also to be constructed. \$500,000 was the estimated cost of the work. A By-law was submitted to the people endorsing the expenditure and it was carried. In the early part of 1873, it was deemed that the half million dollars would be insufficient, and a sum of \$880,000 was asked. The water was to be carried from Lake Ontario, into the basin, through gravitation, to a pumping station on the city shore ; thence by pumping up to a reservoir to be built on Summer Hill. This is now the system in use except that the filtering basin was abandoned, and a pipe carries the water by pressure of pumping, through a conduit, under the Bay, to the reservoir, from which it returns again, through the distributing pipes, as they are emptied by use of the water. The reservoir was then to be of 15,000,000 gallons capacity. The filtering basin was a useless suggestion at the best, and no one ever should have thought of placing a basin of that character in a quick-sand ; for that is practically what was done. It had to be abandoned after an expense, it is said, of about \$70,000, which was paid for experimenting.

The cost of the system was as follows :

COST OF THE SYSTEM.

The cost of the system recommended was made up as follows :	
Filtering basin and conduit pipes to Esplanade, including wharf and foundations of buildings.....	\$205,000
Engine house and coal shed, with engines and boilers complete.....	90,000
Twenty-four inch pumping and distributing main, from Esplanade to reservoir, 12-inch sub-mains, with 6-inch service street mains, etc.—in all 41 miles of service pipes, including all necessary valves, hydrants, etc....	464,000
Reservoir site (12 acres) with reservoir complete, 15,000,000 gallons' capacity, capable of extension to 35,000,000 gallons.....	25,000
Engineering expenses, salaries, etc.....	46,000
Six per cent. for contingencies.....	50,000
Total.....	\$880,000

A further demand was made for money, and on the 20th Feb., 1873, a By-law was submitted for \$1,100,000, and was defeated. There was a difference of opinion between the Commissioners, Allan and Mayor Manning on one side, and other Commissioners. The Mayor and Mr. Allan wanted to keep within the half million, and the others wanted to go on, which they did.

On the 18th Sep., 1877, at the instance of Aldermen Canavan and Beaty, a motion was made to abolish the Commissioners. A vote was taken by the citizens on the 8th Nov.—1360 citizens voted to abolish and 82 to retain the Commissioners. During the years of 1879 and 1880, the water rates were reduced 42 per cent. at the instance of Mayor Beaty. It was the first and last

reduction of the rate. An effort was then made to close up the wells in the yards of the citizens; and to induce them generally to take the city water. The result was that in the next year 8,000 new takers were placed on the list. The city has carried on the works since, not always successfully, but in a way to fairly answer the needs of the city. Much improvement is necessary. It is to be hoped the present effort will not be a failure.

NOTE.—Those who wish to read the history of details, may refer to the *Toronto News*, of Sep. 30th, 1895, where an elaborate history has been published. Superintendent Hamilton carried on the work with success for years.

THE CONDUIT PIPE BROKEN.

The conduit pipe, in Sep., was raised out of the water, and breaking in places the impure water of the Bay got in, and precluded its use for city purposes. After nearly two month's work in repairs, the water is claimed to be, at least, as good as at the same time last year. In the meantime, citizens were supplied with pure water from North Toronto and Toronto Junction, at a cost of about \$12,000.

The rising of the conduit this time is attributed to various causes; to malicious injury, to the unusually lower water, or the want of sufficient weight upon the pipe, and the neglect to take precautionary measures at the right time to prevent it.

THE PRESENT SITUATION.

Works at present.—The citizens have the reservoir on Rose Hill; the main pipe from the pumping house, between Peter and John Streets, on the north shore of the Bay; the distributing pipes; the pumping house, engines and pumps, and other works; the conduit across the Bay, near Hanlan's Point, thence on the Island, to Block House Bay, thence to the south shore of the Island, and then into the lake, and to a depth of 60 feet to the mouth of the intake pipe.

The cost.—For which debentures are issued, is represented in the following figures, showing a total of about three millions and three quarters of a million :

DEBENTURES ISSUED FOR WATER WORKS PURPOSES, 1874 TO 1894.

YEAR.	AMOUNT.	PURPOSE OF ISSUE.
1874	\$ 499,806 66	Handed to W.-W. Commissioners for construction and payment to Furness estate (\$220,000) for purchase of water-works.
1874	600,060 00	
1876	899,846 66	Handed over to W.-W. Commissioners for construction purposes.
1879	65,000 00	To pay off certain liabilities of Water-works Commissioners.
1881	54,993 33	To extend main feeding pipe into deep water.
1883	74,998 98	Special water mains and other services.
1884	75,500 00	Constructing mains and services.
1885	160,000 00	To provide additional pumping power and purchase Inglis & Hunter engine.
1886	100,000 00	Mains, meters and services.
1888	113,000 00	Mains and services, meters, erecting stables, storehouse, etc.
1889	90,000 00	Pipe laying in new territory.
1889	577,585 73	Laying mains and new conduit.
1889	164,995 08	Laying mains, etc.
1892	184,723 15	Laying mains, etc.
1894	46,777 73	Laying mains and purchasing meters.

\$3,707,287 32

Less issue of :

1886	100,000 00	Debentures held as investment of sinking
1888	90,000 00	fund moneys, redeemed and cancelled under
		Consolidation Act, 1899.

	3,517,287 32
Add :	75,000 00—Issued by late Village of Yorkville.
	140,000 00—Issued by late Town of Parkdale.

	3,732,287 32
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The Reservoir or the Rose Hill Reservoir, as it is called, on the ridge north of the city, east of Yonge Street, near the residence of Dr. Larratt W. Smith, Q.C., is, as its name imports, a large retainer of water, pumped up from the lake and driven back through the large main to that point. The capacity is 39,526,400 imperial gallons, for a population of, say, 190,000. If the reservoir were full it would take nine days to empty it. A small part only of the bottom is concreted, over the residue weeds grow and muck is retained, which have an offensive effect on the water. There is now, the beginning of a park connected with the reservoir. The reservoir is 290 feet above the lake level.

Main Pipe.—The main pipe from the esplanade (pumping station) to the reservoir is 19,587 feet long, and has a diameter of two feet. It runs from the station to Wellington Street, and continues east to Simcoe, and west to Bathurst Street; north, along Simcoe and University, to College Street, and along Bathurst north to College, and along College to University, and thence in a north-easterly direction to Yonge; along Yonge north to near the reservoir, thence north-easterly to the reservoir.

The Pumping Station is situated between Peter and John Streets. There is a fair sized lot, and substantial buildings in use. It contains No. 1, Worthington engine, four million imperial gallons daily. No. 2, Worthington, eight million gallons daily. No. 3, Inglis & Hunter, eight million gallons daily. No. 4, Blake Pump, ten million gallons daily. No. 5, Blake Pump, ten million gallons daily. Total gallons consumed in 1894, 6,590,761,017. Average daily consumption, 18,056,881 gallons. Gallons per day, to each inhabitant, 96 gallons. Gallons per day, to each consumer, 97 gallons.

The Conduit (steel) station to Hanlan's crib, four feet diameter, 4,660 feet. Station to Hanlan's crib, wooden, three feet diameter, 4,660 feet. Hanlan's crib to Island crib, five feet diameter, 6,027 feet. Island crib to Old Intake, six feet diameter, 6,027 feet. Steel conduit extension, into Lake Ontario, six feet diameter, 350 feet; then to mouth of intake, 60 feet. The wooden conduit extends about 2,357 feet from the south shore of the Island into Lake Ontario, then dips to the depth of 75 feet below the surface of the lake.

Distributing Pipes.—245½ miles now in use. Cast iron. Sizes from three inches to thirty-six inches. *Hydrants* now in use, 2,840. Stop gates now in use, 2,029.

Services.—Total number, 40,326. Sizes from 1½ inch to 6 inches. Average length of service, 33 feet. Average cost, \$16.89.

COAL.

Cost of Pumping.—Coal consumed during 1894, 26,852,011 lbs., \$4.19 per ton. Wood, \$3.25 per cord. Average gallons pumped per pound of coal, 245-676. Cost of pumping, figured on pumping station expense, \$102,624. Cost per million gallons, raised \$66.15. Cost of pumping figured on total maintenance, including renewals, \$435,926.

Extract from Mr. Charles A. Matthews, (Chief Clerk of Water-works), valuable report accompanying the elaborate and intelligible report of Mr. Edward H. Keating, City Engineer, C.E.M., Am. Soc. C.E., for the year 1894. The following financial statement, gives an idea of the receipts and expenditure for one year.

FINANCIAL.

RECEIPTS .	MAINTENANCE.	\$	c.	\$	c.
<i>Division I.</i>					
From consumers :					
Water rates, domestic.....		359,420	22		
" manufacturing.....					
Net Receipts for water.....		359,420	22		
Miscellaneous (repairs, sales, etc.).....		1,857	55		
	Total.....	361,277	77		
From public funds :					
Fire hydrants.....		57,000	00		
Fountains					
Street watering.....		25,000	00		
Public buildings.....		3,798	24		
General appropriations.....		85,798	24		
	Gross Receipts from all sources.....	447,076	01		
<i>Division II.</i>					
From fixed rates :					
Domestic.....		352,949	55		
Manufacturing					
From meter rates :					
Domestic		92,268	91		
Manufacturing					
	Total.....	445,218	46		
EXPENDITURES.					
Maintenance and repairs.....					
		161,037	80		
Revenue collection branch.....					
		24,794	98		
Renewals and special repairs (provided for by tax levy).....					
		27,219	17		
		213,051	95		
Interest and sinking fund on debentures.....					
		224,732	00		
	Total for year.....	437,783	95		
Balance (after renewals charged as above).....					
		9,292	06		
	Total.....	447,076	01		

GENERAL DEFECTS.

The defects, or inadequate character of the present system, to meet the needs and requirements of a growing city like Toronto, are numerous. The impure quality of the water, frequently introduced into the houses, and neces-

sarily, into all domestic uses, drinking, cooking, washing, demand immediate consideration to change the system, so as to procure a purer, better and more satisfactory quality of water. The health of the citizens is of the first importance, and it is menaced by the unsanitary water. The uncertainty and inadequacy of the supply for fire purposes, bring home to every property owner, the necessity of demanding a radical and permanent change in the system. The cost of the present system, nearly four millions of dollars, and its unsatisfactory results, imperatively invoke the most careful consideration, but the improvements, to it may be the expenditure of another million or two, and will not completely improve the system, and restore entire confidence in the community. There needs to be haste, but no hurry.

IMPROVEMENTS SUGGESTED.

Mr. Keating, City Engineer, in a special report, dated Oct. 20th, 1893, states the various proposals submitted to him, as follows:

"I may, however, say with regard to all proposals of this kind, that in my opinion, the public interests demand that the control of the entire water supply of the city, in all its bearings and details, should be vested in, retained and jealously guarded by the municipal authorities.

"The following is a list of the various schemes proposed, so far as they have come under my notice:

- "From Lake Ontario, in the vicinity of Scarboro.
- "From Lake Ontario, in the vicinity of Mimico.
- "From the Oak Ridge Lakes and the Rivers Don and Rouge (by gravity).
- "From Lake Simcoe.
- "From wells sunk in the gravel beds north of the city.
- "From springs and artesian wells in the Township of Erin.
- "From the vicinity of the present intake (the Tunnel)."

Some preliminary statements may be made as to Lake Ontario and Simcoe.

Lake Ontario.—The water in this lake is, no doubt, naturally, as good as can be required for all purposes. Its quantity and quality are equal to any demand. The trouble is to get it in its pure state. This, in my view, can never be had, so long as the water is taken from near the Island. The Bay water is absolutely out of the question. The water, immediately south, west or east of the Bay, has to some extent, the same objectionable features. Analyses may show comparatively good water, but is impossible to avoid the sentiment that it mixes with a compound of deleterious fluids, of a noxious and injurious character. All the sewage of the population of 190,000 ; of various kinds of factories, slaughterhouses, and other sources of pollution, are constantly flowing too near the source of water to make the drinking and other uses of such water, pleasant or agreeable. The sediment must be got rid of, and the sentiment removed. Both are absolutely necessary for health and pleasure in life. The difficulties would not be wholly removed by extending the intake two miles into the lake, as originally contemplated, even if it were practicable in the very deep water, to be found south of the Island. These are not all the objections. Probably not less than populations of four or five millions ; in Milwaukee, Chicago, Duluth, Detroit, Toledo, Cleveland, Buffalo, Hamilton, and all our own towns along the coasts of the lakes and rivers, add their share to the general impurity. The Niagara Falls, almost opposite us, pour over the accumulated noxious liquid, besides the *debris* and offal of those cities, and force them to our doors, by the impetus of the fall and rush of the river. These injurious elements do not lose their momentum, until they strike our rising shore, whence they are carried out again, southerly and easterly, down the lake into the St. Lawrence.

I am not unmindful of the beneficial and disinfecting effects of the sun and air on the waters, as they pass along the great distance that intervene between our city and Buffalo say, our nearest, large neighbor; or Chicago, one of the farthest. Still the impurity to some extent must remain; our Bay water in the centre is about thirty feet deep, surrounded by a sand bar, that sucks in the worst stuff, which is washed out again to some extent, by storms and currents, and agitation of the waters.

Lake Simcoe.—This lake, according to Mr. Kivas Tully, C.E., is 707 feet above sea level, and is 467 feet above the level of Lake Ontario. It is over 300 square miles in extent; and the late Mr. Walter C. Brough, C.E., estimated the average daily supply at two thousand millions of imperial gallons. The whole lake freezes over about the end of December every year. Its fluctuations in depth are about three feet. A daily supply to Toronto, of water, would reduce the level by one inch every $23\frac{1}{2}$ days. The *Globe* said, some years ago: "It is fed altogether by creeks, streams, and small rivers, like the Holland, and the waters of these are not likely, to grow either purer or more abundant as settlement advances." A pamphlet, published by A. F. Hunter, M.A., on Lake Simcoe and its environs, says: "Lake Simcoe has too much shore line in proportion to the volume contained, to yield good water. Although it overlies limestone, which renders the water potable, still the large amount of shore line for the comparatively small volume of water, makes the quality inferior. Chemical analysis shows this, by indicating the presence of vegetable matter and other impurities. Respecting the amount of shore line, the following comparison with Lake Ontario will be instructive:

Lake Simcoe, 300 square miles, 120 miles shore line.

Lake Ontario, 6,000 square miles, 600 miles shore line.

"Lake Simcoe, in proportion to its size, has four times as much beach per square mile, as Lake Ontario has, thus rendering its water impure with vegetable matter, and charged with sediments during storms." The towns and villages growing up all around the lake are sources of pollution. Barrie gets its water from the north, and not from the lake. Allandale has a gas factory, which throws its refuse into the lake; as with other places, 12,000 acres of marshland, through which the Holland River runs into the lake, carries with it other vegetable matter, malarial elements and other injurious influences. By *The Narrows*, Lake Simcoe is connected with Lake Couchiching, and that lake by the Severn River with the Georgian Bay. The lake is, I believe, about 40 miles long, from north to south, and about 20 to 25 miles from east to west; and has also the Kempenfeldt Bay about nine miles long, on which Barrie is situated; and Cooks' Bay, a considerable body of water. The lake is very deep. Kempenfeldt Bay is 200 feet deep, and much of the centre of the lake is as deep. A friend, resident in Barrie for many years, writes to me, that "the rivers running into the lake are few and small." There are also, "some creeks." "The lake is chiefly fed by springs. The small streams feeding it and the large outlet do not account for so large a body of water." Barrie gets its water "from certain wells." "The water of the lake is very clear, but quite hard." "I do not think it as good as Lake Ontario water." "I do not see that any amount of water required for Toronto, would have any effect whatever on the level of the lake." Couchiching is about 12 miles long; and 3 or 4 miles in width at the southern extremity. Holland River, taking its rise at the Ridges, runs into Cooks' Bay, and nearly opposite over the Ridges southerly, the Humber takes its rise and flows into Lake Ontario. A tunnel about seven miles in length would be needed to connect them. The Ridges are about 186 feet higher than Lake Simcoe. The Tunnel would have to be of considerable depth.

Bond Lake is a small body of water about twenty miles north of Toronto,

and is situated on a hill, with apparently no inlet nor outlet. The surface water comes from about 1,000 acres. It is of great depth. Some say it is unfathomable ; others, that it has been ascertained to be about 70 feet deep. It is probably about a mile in diameter. It is supposed to be fed by a subterranean passage from Georgian Bay, or Lake Simcoe. Its water level would prelude that idea.

The Rivers immediately to the north of the city would scarcely afford a satisfactory or pure supply. It might be, also, that it would not in a year of drought be permanent.

The currents in Lake Ontario are important, and to be considered in seeking a supply of pure water. In 1891, Mr. C. H. Rust, Assistant City Engineer, addressed a valuable report to Mr. Grenville C. Cunningham, City Engineer in which he says that "the total discharge of the sewage into the Bay is 13,335, 586 gallons in the 24 hours. The average discharge per head in the 24 hours is 74 gallons. You will observe that from 20 to 25 per cent. of the floats went in the direction of the intake pipe. The floats were all set in a depth of water from twenty to forty feet, and were not influenced by the winds except during very stormy gales." You will see by the plan that a number of the floats went in a westerly direction. The greatest velocity ascertained was 54 miles per hour, equal to about fifty feet per minute. He thinks that if the average is taken, about six miles from the intake pipe the danger of polluting our water supply is infinitesimal. It can hardly be doubted that the currents easterly and westerly must mix the sewage with the water along the shore. That can only be avoided by an intake pipe two miles or so out into the Lake. Indeed, the only safe remedy is, if the water must be taken from Lake Ontario, is to construct a trunk sewer, or adopt a system, now common, of utilizing the sewage, without letting it run into the Bay or Lake at all. The idea of Mayor Kennedy, so I understand it, to have the trunk sewer, and the tunnel at the same time, is the true solution, if both could be made financially practicable. So long as the sewage runs into the Bay and Lake, so long will the grievances now complained of be perpetuated. This view ought to be understood and faced by the citizens at once. I am not prepared to admit, though, that a trunk sewer, carrying the sewage into the Lake, at the Woodbine, or in that neighborhood, is the best terminus. A better would be to tunnel through the Scarborough Heights, and let it flow into the Lake north and east of the Height Promontory ; and then there might be hope of safety from pollution. Probably a better outlet for the sewage would be to the west, along the Esplanade. A decline of nine feet, or thereabout, from the Humber to the Don, could easily be overcome ; and these, with the aid of the currents from the east, carry the sewage out into the Lake away from the intake pipe. It would need to be precipitated a long way out in the Lake, and at a great depth.

However the sewage question is not now designed to be fully considered. It is nearly quite as important as the water question.

WATER FROM SCARBOROUGH.

A new main, $6\frac{1}{2}$ miles in length would be required ; changing the building and pumping plant, and an intake pipe $1\frac{1}{2}$ miles or two miles into the Lake. Cost, say, \$1,000,000. New main to be 42 inches in diameter. The general main would be, or might be, largely overground work. It could be done cheaper and more expeditiously than a tunnel. A new reservoir might be necessary ; cost, say, \$305,000, as represented by Messrs. Herring and Gray. Mr. Keating's objections are :

1. The exposed position and unsuitable character of the shore for the establishment of a pumping station and wharves.

2. The great length to which it would be necessary to lay the suction pipe or conduit in the lake, in order to reach a suitable depth.
3. The turbid character of the water in the spring, which is reported on good authority to extend southwardly into the lake two miles.
4. The risk and uncertainty of being able to construct a tight reservoir, within a reasonable cost, in the sandy and gravelly soil on the heights in that vicinity, in the event of such a reservoir being needed.

FROM MIMICO.

Mr. Keating made a very general examination of the scheme.

1. The water for a long distance from the shore (probably from two to three miles) appeared to be riled and dirty. The length of main required would be considerably greater than the main from Scarboro; a new and large reservoir at or about Well's Hill would also be needed, and the required crossing at the River Humber would be likely to prove a costly feature.

2. While I have made no estimate of the cost of this scheme, I think it probable that it would largely exceed the Scarboro project, and that it is less favorable in other respects.

3. FROM THE OAK RIDGE LAKES AND THE RIVERS.

This project was reported upon in 1887 by Messrs. McAlpine & Tully, who strongly advocated its adoption.

In a comparison of costs with pumping water from Lake Ontario, they show an enormous annual saving in its favor.

4. The concluding paragraph is, however the most important one to be found in the whole report. It is as follows :

"In conclusion, we have to state that our preliminary examinations have shown that an abundant supply of pure and wholesome water for any possible future demand can be obtained from the districts herein described; that it can be delivered at the same or considerably greater elevation than the Rosehill Reservoir, at a cost, the annual interest of which, including the expense of management and renewals, will be so much less than the expense of furnishing an equal quantity by pumping, that the saving, in considerably less than ten years, will be equal to the whole cost of the proposed gravity works."

Mr. Keating says the water supply is impure and unfit for domestic consumption.

FROM LAKE SIMCOE.

Messrs. Herring & Gray, in their report in 1891, estimated the cost of the completed scheme to be "at least \$7,711,325," exclusive of land damages. What the additional costs of these damages would be is an unknown quantity.

Mr. Keating says: Without going further into the matter, it is sufficient to know that the pipe line is about forty-six miles in length, and that ten miles of tunnelling are required, in order to conclude that the cost must necessarily be enormous, and that, even supposing the estimates can be largely reduced, the project, for the present and under existing circumstances, is impracticable.

I should, perhaps, add that the chemical analysis of Lake Simcoe water shows it to be greatly inferior to that of Lake Ontario.

Mr. E. A. Macdonald's Aqueduct Company, reports the cost of construction as follows :

Right of way, 40 miles by 1,000 feet, 4,848 acres at \$75 per acre. \$ 363,000
Excavation of contraction tunnel and shafts, 9 feet diameter, 15 miles long, 200,000 cubic yards, at \$1.50 per yard..... 300,000

Eight million feet of lumber for lining tunnel, etc., at \$15 per 1,000.....	120,000
Damages arising out of diversion of water courses.....	200,000
Bridges over and subways under highways.....	250,000
Reservoirs, wheel pits, wheels, penstocks and other permanent plant.....	400,000
Engineering and legal expenses	100,000
Incidentals	767,000
	<hr/>
	\$2,500,000

Besides the cheapening of the work, the hydraulic principle of excavation enables the company to complete the aqueduct within eighteen months. The cost of the aqueduct by the ordinary methods of construction is estimated from \$6,500,000 to \$7,000,000.

Possible Revenues.—Upon the completion of the Aqueduct the Company will be in a position to develop for sale 691,674 electric horse power. Electricity is now selling in Toronto at from \$60 to \$150 per horse power per annum. The Company propose to sell at an average of \$20 per horse power per annum, and at that price 691,674 horse power would yield an annual revenue of \$13,833,480, a sum sufficient to pay interest at four per cent. on \$300,000,000, besides leaving \$1,833,480 for working expenses.

For the purposes of this paper it will be sufficient to show one item of

Assured Revenue.—The Company proposes to sell electric energy for heating and lighting purposes. Over \$3,500,000 per annum is expended by Toronto for coal, wood and other fuels, including oils for illuminating purposes. It is fair to assume that the \$3,500,000 now expended for fuels and oils will become part of the Company's revenues, which sum alone would pay interest at seven per cent. on \$50,000,000, or four per cent. on \$77,500,000. In other words, ONE YEAR'S REVENUE would be more than sufficient to construct the entire aqueduct.

Metal Smelting, it is claimed, can be carried on in Toronto with great advantage, if the water power, by gravitation, is used for producing electrical force.

Toronto's Domestic Supply is not demanded.

The suggestion made, as to the indifference of the company "from a financial standpoint," whether they get the right to supply the city with water for domestic purposes, involves more than one idea. Why, in that case, ask the sanction of the city to the company's proceedings or contracts? or why delay construction until the city gives its adherence to the scheme; if one year's revenue for "heating and lighting purposes," equal to \$3,500,000, will "pay interest at seven per cent. on \$50,000,000, or four per cent. on \$77,500,000," or in other words "one year's revenue would be more than sufficient to construct the entire aqueduct." In that case the revenue will be sufficient to pay seven per cent. on \$50,000,000; or twenty times more money than is needed to build the aqueduct. These items, at least awaken reflection. The "ridges" or hills forming the water-shed between Lake Ontario and Simcoe; are 261 feet above the level of Ontario, and 186 feet above the level of Simcoe, and 310 feet above the Georgian Bay; which is 347 feet above Lake Ontario. Water from Georgian Bay would appear to be impracticable. What about the Water-works debt of \$4,000,000.

The Bill incorporating the Aqueduct Company, passed into law on the 5th May, 1894.

From Wells North of Toronto, near Eglington. Mr. Keating says:

"I was shown the North Toronto pumping station, and an excavation in the gravel about a quarter of a mile distant therefrom, from which a small stream of water was flowing.

"The North Toronto pumping station is supplied from a well adjoining, about 18 feet in diameter and 24 feet in depth, the normal depth of water in the well being about eight feet. The total daily consumption was stated by the engineer in charge to be about 8,000 gallons. This quantity of water is raised in about two and a half-hours, and lowers the water in the well about four feet.

"There is no other water visible except what I have mentioned above. The theory of the promoters is that there is an immense underground flow from Lake Simcoe through the gravelly subsoil, and that it can be advantageously tapped by means of driven wells in the vicinity referred to, and thence drawn off by gravity to the City after being raised by pumps to the surface."

The "theory" stated is not the one that has been presented to me by many gentlemen, especially by Capt. Hood, and by persons claiming to be experts in such matters. I have reason to accept their claims as experts. Tests costing not more than from three to five thousand dollars would settle that question. The "theory" stated to me is, the waters underground are from some northern source, and not Lake Simcoe, that "Artesian Wells" sunk would not require pumping, as if the water underground "theory" is correct, the overflow will be such as to render pumping unnecessary. That the quantity of water would be demonstrated as clearly in a short time, as to the permanancy of the flow; as the thousands of wells in Ontario, on all the farms of the province, show the underground springs and streams to be innumerable, and inexhaustible as a rule, and of the very best kind of water. The water in the 24 feet in depth well at North Toronto, supplying that town, and during the dearth from the 5th Sept. to nearly the end of October, supplying also all East Toronto with drinking water, shows what might come out of deep wells, and a number of them, sunk in various parts where experts say water can be had. I may say that the cost to the city of the conduit break, was about \$12,000. A quarter of that would test this question; and I myself believe, from all I have heard, and nothing but satisfactory and conclusive tests would lead me to a contrary belief, that enough water of the purest and best quality could be obtained in that way for all the purposes of the city, and with all the advantages and cheapness of gravitation, as distinguished from the disadvantages of the Ontario polluted waters, and the annual cost of pumping, maintenance, repairs and coal, etc., mounting up to nearly \$240,000. This saving alone would pay a sinking fund and interest at four per cent. on a debt of about \$5,000,000. Water-works debentures are the best ordinary debentures in the money markets for rapid sale at a low interest. The saving by this system without any revenues, would pay the cost of the present water-works, and as improved, a million of dollars would remain for the improvements. An artesian well was sunk near Eglington at one time, that showed an amazing flow. The depth of the underground river or lake is claimed to be less than 250 feet. One well could be sunk for a thousand dollars. There are evidences all along the plateau from Gallows Hill to Hogg's Hollow, of an unusual water supply. It has been shown in various ways, a trifling expenditure would, to my mind, prove it beyond a peradventure. It would at all events, set at rest the claims of intelligent and experienced men. It is scarcely necessary to remind the reader of the extraordinary systems of irrigation, by water drawn from artesian wells, familiar to most readers, the present remarkable results in California and in our own North-West. Deserts turned into fruitful fields, big wells dug in a wilderness, and yielding untold and inexhaustible supplies of water.

Since writing the foregoing, *The Globe*, Dec. 5, 1895, published Dr. Oakley's story—showing abundance of subterranean water just north of the city. We made brief extracts as follows:

"In effect it is that an electric apparatus for the discovery of water-bear-

ing strata has been used around Toronto for some time; that by its means a district of water-bearing territory 1,200 feet wide to the north of the city has been located, with an underground supply large enough for all the requirements of the present and future population. During Mr. Mansergh's visit these facts were made known to Mr. Keating.

"Dr. J. W. Oakley of College Street, is the possessor of the electric apparatus that is a much better finder of water than the hazel wand of the old-time prospectors.

DEVELOPMENT IN CALIFORNIA.

"The doctor said: 'I first became interested in this matter of discovery and development of water-bearing strata during a residence of two years in Southern California, from which I returned about a year ago. The instrument used in the work is an electrical device, the method of operation of which I cannot divulge, as it has not been patented. At the foot of the Sierra Madre, which is from 10,000 to 12,000 feet high, are a range of foothills about 2,500 feet high. This is in the Ontario colony, largely made up of people from this Province. Irrigation is used extensively there in the working of the orange groves. The first use of the instrument was made there and the result has been the discovery and practical utilization of great supplies of water that formerly lay undiscovered below the surface.'

"A. S. Hobby, C.E., writes: 'I should think that the tracing of water streams in the vicinity of Toronto would be very interesting. The fact, or general supposition, if it be such, that Lake Ontario is fed largely from sources other than the Niagara River is of itself interesting. The natural supposition would be that these subterranean feeders came from the north and northwest, and I believe that geologists have supported this. If one of these feeders could be tapped at a sufficient elevation to utilize it, it should be worth something, for the water would probably be very pure.'

"'All this,' continued Dr. Oakley, 'shows that our instrument for discovering water-bearing strata is not merely a theory that has not been subjected to the test of experience. And now as to Toronto. Dr. Hay, who is here to corroborate my statements, and I have examined carefully the district to the north of Toronto. We have the most undoubted proof, according to the indications of the instrument, that there is quite near the city water-bearing strata 1,200 feet wide and capable of supplying an enormous and continuous supply of water. We proved the accuracy of the instrument in every possible way.'

"I am much interested in your report of investigations you have been conducting to determine whether there were subterranean water obtainable at an altitude sufficient to supply Toronto. I am not surprised that you should find the three large streams described and mapped in your letter. From the limited knowledge and information I have of the geology and topography of that country I would believe it probable that large underground streams of water would exist as you have found them. The high archean formation north of Georgian Bay and Lake Simcoe pitching down to the south, and without doubt underlying the lakes, and the Devonian formations south from the lakes may offer most favorable conditions for the passage of these streams."

From Springs and Rivers in the Township of Erin.—The only information I present from a skilled source, is in the report of Mr. Keating:

Its height above Lake Ontario is about 1,000 feet, and its distance from the centre of the city in a direct line is about 36 miles. Three or four flowing springs of exceptionally clear and sparkling water were pointed out. It was subsequently learned that this water is as exceptionally hard as it is bright. At one time a boring was had, and that at a depth of 80 or 90 feet the boring

tool suddenly dropped about eight feet, and that water immediately rushed to the surface.

The prospects of obtaining a considerable quantity of water from this locality appear greatly better than at North Toronto, but if it should prove to be as hard as that flowing from the springs in the same locality (which seems probable) it would be unfit for general use, and it would require an enormous expense. Still, streams of a considerable volume of water could be turned in to help, which would also modify the character of the water.

From Lake Scugog, Balsam Lake, etc.—I have not seen any discussion or report on the practicability of water from these lakes in the north east. Balsam lake is 587 feet above Lake Ontario, Lake Scugog, the most southern of the lakes; and which would have to be reached by an aqueduct or little open canal, is about thirty to thirty-five miles from Toronto. It is fed by Scugog River from Sturgeon Lake, and by Cameron Lake, and then Balsam Lake, a large body of water. Balsam Lake is fed by Burnt River eastwardly, and by Gull River and numerous lakes northerly. There are probably 20 small lakes, and a water shed from twenty townships, or a direct and immediate water shed of 1,200 square miles, and probably an indirect water shed of half as much more. The numerous fresh water springs, rivers and lakes that are or can be made tributary to Lake Scugog, would supply, it seems to me, all the water a city of a quarter of a million population would require. There is some marsh about Lake Scugog; what effect it would have on the water I cannot tell. The territory from Scugog to Toronto is comparatively level and even ground, with no obstruction like the "ridges" or hills between Lake Ontario and Lake Simcoe. The ridges run about the centre line, east and west, through Townships King, Whitechurch and Uxbridge, and then at the east turn north through Reach and Brock. Lake Scugog is partly in Reach; Sturgeon Lake in Verulam, and Balsam lake in Bexley and Fenelon. The combination of spring and rain water, would, it may be judged, render the water useful for all domestic purposes. The elevation of the course of supply would be such as to render a current above any house that would ever be built in the city. The cost given of the construction of 40 miles to Lake Simcoe for land is \$363,000. This demands land 1,000 feet wide. There would be no necessity for so great width here. A canal about 12 feet deep from the top, and as wide, would be all that is necessary for the actual aqueduct. Of course, there ought to be about as much more land in width on each side of the aqueduct. Then for 15 miles of tunnel \$300,000 is allowed. This would not be required in this system. The inside of the duct ought to be treated as a reservoir is, and the outside sodded, with fences on both sides to keep off cattle. Timber, \$120,000, for lining tunnel would not be required. Diversion of water courses ought to be adjusted for less than \$200,000. Bridges would be required, say \$125,000. Reservoirs, pits, etc., \$400,000, ought to be done for \$100,000, other expenses, \$100,000 instead of \$767,000; equal to a total of \$500,000. Unskilled labor would be required chiefly, and the work let out to contractors in sections could be finished in months instead of years, as it must require in case of a tunnel, in which only a few workers can be engaged at a time. A current continually running, and the water exposed to earth, air and sun, would give pure water, undoubtedly healthy and agreeable. Yet a large pipe or two would for some reasons be even better than the open canal. This ought to be submitted to engineering, and analytical skill and investigation. The saving of five years pumping and coal would well nigh pay the whole cost. The annual cost would then be but small in the way of repairs and increasing demands of the city for an increased supply. The latter would depend on the rapid increase of population.

LAKE TICE AND MEDAD.

Lake Tice is west of Milton, near Campbellsville, on the "Mountain." It covers about eight acres, and is 600 feet above Toronto, is at least 70 feet deep, without any known inlet. It is surrounded by a hard rock, and is in fact a complete reservoir. The permanency of the water could be tested for a few hundred dollars, by opening it into the Credit River, which has its source near by. A few days would determine to what depth it would be drained out, by the outflow of a certain quantity of water. The water is said to be good. It is about 35 miles from Toronto, and there are no intermediate obstructions, unless they should be a few streams, like the twelve-mile creek, the sixteen-mile creek, and the Humber. The water could be led to the rear of the city through an open aqueduct or pipe, as in the other case.

Lake Medad.—Medad is about 35 to 40 miles from Toronto, north of Burlington on the Mountain, and is over 600 feet higher than Toronto. It is about four miles north of Lake Ontario. The water covers 60 acres, and is at least 100 feet deep, and is said to be good water. It has the same rivers to cross. Its supply is supposed to be inexhaustible. It has a natural curiosity beside it, in the nature of a great cave.

From the vicinity of the present intake over the Island.—This scheme is elaborated in Mr. Keating's report for last year, and I would recommend those seeking detailed information and opinions, to consult it. I will only give a few extracts:

1. "I am of opinion that the position of the present intake was wisely selected, and that the future water supply can be obtained from the same vicinity, not only to best advantage, but that the difficulties and expense which would be involved in making any radical change are so great that it would be unwise to go elsewhere.

"The question of the disposal of city sewage naturally presents itself in connection with any scheme for drawing the water supply from Lake Ontario.

"While it cannot be denied that all faecal matters ought properly to be returned to the earth from which they have their origin, and that, theoretically, it is wrong in principle and dangerous to discharge sewage into the same body of water from which water may be drawn for domestic use, yet it is well, and in fact we are forced to look at this question from a practical standpoint.

2. "The inference to be drawn is that all such foul matters, within certain limitations, decompose and undergo a process of self-purification after being discharged into a large body of fresh water, and that beyond a certain distance from the point of pollution, no injurious effects are to be traced or feared. What that precise distance is has never been definitely or satisfactorily determined so as to admit of direct calculation or the application of any standard rule. Each separate case requires special investigation and careful study, as local conditions must of necessity be considered.

"Among the most recent investigations on this subject with which I am acquainted are those which were carried on in the town of Zurich, in Switzerland, containing, with its suburbs, about 100,000 inhabitants. The average delivery of sewage from the town is stated to be 4,400,000 gallons, and the maximum 11,000,000 gallons per day. This sewage is discharged into the River Limmet, which is about 98 feet in width and 6½ feet in depth, with an average daily flow of about 2,000,000,000 gallons, and a mean velocity of about four miles per hour. One of the conclusions arrived at in this case was:

"That under the conditions described, and provided there are no intermediate sources of pollution, a river such as the Limmet, flowing at the mean

velocity of about four miles per hour, will purify itself within a distance of about sixteen miles from the point of pollution.

"I have dwelt rather fully upon this subject, in order to show that providing the city sewage is discharged into the lake at a sufficient distance from the Water-works intake, no injurious effects need be anticipated. What the safe distance is remains a matter for further investigation, and it is a question which must before long receive attention if the city continues to increase in population, as it undoubtedly will.

"The 6-ft. wooden conduit is partially filled with sand. The 5-ft. steel pipe also contains sand in some places, and it has, unfortunately, been laid so irregularly and at so high a level that it cannot be relied upon. The 4-ft. steel pipe across the harbor cannot safely be relied upon.

3. "Different methods have been proposed with the view to remedying these defects and lessening the risks, either partially or wholly, and others have suggested themselves after a study of the questions involved."

The following is a list of all these proposals and suggestions:

"A new steel conduit across the Harbor.

"A tunnel under the Harbor and Island and into the lake to a new inlet.

"Pipes laid in a tunnel under the Harbor.

"An auxiliary pumping station on the Island and forcing the water through the present conduits across the harbor to the pump-well.

"Transferring the Main Pumping Station to the Island, and pumping the water through either the present conduits or through new pipes laid across the harbor.

"The same as the above, only that the force main or mains should be carried across the western entrance to the harbor on a bridge.

"A tunnel under the harbor and a new conduit across the Island."

(1) A tunnel under the harbor, coupled with a new conduit across Toronto Island and into the lake to a new intake, appears to me to be the best solution of the problem. It is also one of the cheapest and safest plans of any so far proposed, and I recommend its adoption. In my opinion it is unsafe to rely upon the existing conduits, for reasons which I have already explained, and *I advise that no time be lost in starting the works*, the construction of which will probably take two years.

(2) Borings have been made at the Water-Works wharf and at Hanlan's Point, for the purpose of ascertaining the nature of the material to be encountered. Shale rock was found at a depth of 13 feet below lake level (zero) at the pumping station, and at $55\frac{1}{2}$ feet in depth at Hanlan's Point. The rock generally is firm and solid, but is of such a nature that the tunnel would require to be lined throughout its whole length, which is a little over a mile. If, however, it is kept down about 130 feet below the surface of the harbor, the borings so far taken indicate that no water will be encountered at that depth to hinder the vigorous prosecution of the work.

(3) My estimate of the works which are necessary in order to complete this project in a proper manner is as follows (exclusive of land damages):

Tunnel, 6-ft. 6-in. in internal diameter, 5,500 feet in length, lined with brickwork, including necessary shaft at each end.	\$250,000
Screen chamber, valve house and connections at Main Pumping Station.....	20,000
New 5-ft. steel pipe, 900 feet in length, connecting existing 5-ft. pipe in Blockhouse Bay with southern end of tunnel, in- cluding specials and connections.....	19,000
New 6 ft. steel pipe, 2,400 feet in length (to replace existing wooden (pipe), between shore crib and bell-buoy crib, in- cluding connection and anchorage.....	*\$60,000

Valve house and settling chamber at south end of tunnel.....	18,000
New 6-ft. steel conduit, 7,000 feet in length, across Toronto Island, from south end of tunnel and into Lake Ontario, including new intake, valve house and settling chamber.....	158,000
	<hr/>
	\$525,000

In this estimate the tunnel is designed of ample capacity to deliver at the Pumping Station, 75,000,000 gallons per day, so that no enlargement or duplication will be necessary until the City has trebled its present population. Provision is also made for a duplicate 6-ft. steel conduit across the Island in order to avoid any tearing down or expensive alterations when such an addition becomes necessary. Add also for the distribution pipes.

Total cost of tunnel scheme as outlined above.....	\$525,000
16,000 ft. of 36-in. force main, from intersection of Bathurst and College Streets to Rose Hill Reservoir, including valves and specials, etc.....	135,500
1,000 ft. of 30-in. pipe on Wellington Street, from John to Simcoe Street, including valves, etc.....	8,000
24-in. main on Front Street, from Simcoe to Sherbourne Street, including valves and specials, etc.....	36,000
12-in. main on Avenue Road, from Davenport Road to Bloor St.	5,500
	<hr/>
Total.....	\$710,000

Mr. Keating's Report on Proposed New Conduit.—One item which will be added very largely to the cost of laying any new conduit across the harbor is that of rock excavation under the water, of which it is estimated that there will be about 4,700 cubic yards. The following are the estimates for which the Committee have asked :

1. The estimated cost of a 6-foot cast iron pipe from a new intake to the pumping well is.....	\$560,000
2. The estimated cost of 6-foot cast iron pipe from Hanlan's Crib to the pumping well is.....	240,000
3. The estimated cost of a 6-foot steel pipe over the same sections is as follows :	
For 6-foot steel pipe from a new intake in the lake to the pumping well.....	518,000
And from Hanlan's Crib to pumping well.....	237,000
4. The estimated cost of the tunnel scheme, as previously recommended, with an extension of pipe to the new intake, is...	525,000

It must be clearly understood that any scheme involving a new conduit from the pumping station to Hanlan's Point or Hanlan's Crib will be incomplete in itself, and that further expenditures are necessary owing to the insufficient depth at which the existing 5-foot steel pipe has been laid through "the cut" across Toronto Island. The top of this pipe at one point lies at the level of low water in the lake, and for several hundreds of feet it is only six inches below the same level. It will therefore be seen that unless this defect is remedied, or some means are adopted towards augmenting the supply, the City is liable to be short of water at times when Lake Ontario may approach its lowest level, or if the consumption of water should increase. This pipe cannot now, while it is in use, be lowered without running the risk of damaging it seriously, and as the whole water supply of the City is at present drawn through it, a break would result in the serious contamination of the supply both by large quantities of sand and bay water.

On 6th Sept., 1895, Mr. Keating reported further on the

Proposed Tunnel.—“The best position for the tunnel, would commence at a point on the Water-Works property about 60 feet south of the existing Pumping Station, where a 10-ft. shaft would be sunk to a depth of 138 feet 3 inches below zero level of the Lake. The tunnel would then be constructed at a similar level in a southerly direction under the harbor for a distance of 5,820 feet to a point near Mugg's Landing, where the terminal or inlet shaft would be sunk, to which a new steel conduit would be connected at a depth of about 12 feet below zero level.

“It is proposed to make the tunnel 6 feet 6 inches in width by 6 feet 6 inches in height, the cross-section resembling a horseshoe, as will be seen by reference to the plan. It is also proposed to sink a shaft from the surface down to the tunnel at a point in the Bay 3,100 feet from the Pumping Station shaft, or nearly midway between the inlet or terminal shaft and the Pumping Station shaft, with the object of facilitating the work and shortening the time of construction.

“The result of borings shows that shale rock will be struck at the Pumping Station shaft at a depth of about 16 feet below the surface of the ground, at a depth of 42 feet below zero level at the centre shaft, and at a depth of 65 feet below zero at the inlet shaft. The whole length of the tunnel will be through shale rock.

“The shafts where they pass through sand for a short distance into the rock are proposed to be constructed of cast iron or steel. Through the rock they will be lined with brick and concrete, and the tunnel is proposed to be lined in the same manner.

“It is also proposed, in connection with this work, to lay an entirely new steel conduit pipe, 6 feet in diameter, from the inlet shaft at Mugg's Landing to the north end of the existing 6-ft. steel conduit at the bell-buoy crib. The southern end of this conduit, from the connecting crib on the Island to the bell-buoy crib, will replace the existing 6-ft. wooden conduit, to which special attention has been previously drawn, and for which an appropriation of \$75,000 was recently asked. It is proposed to lay the new steel conduit on a descending gradient from the Lake shore to the inlet shaft, and at a sufficient depth to provide for the delivery of over 40,000,000 gallons of water at the Pumping Station, the tunnel being designed to deliver about 75,000,000 gallons, with the pumping wells drawn down to 9 feet.

“It is also proposed to lay a new 5-ft. steel connecting pipe from the new steel conduit, at a point near the inlet shaft to the existing 5-ft. steel conduit at a point nearly opposite Heber's landing.

“The estimated cost of the whole of the above works, which is \$540,000 which is \$15,000 above the original estimate, when it was contemplated to construct the tunnel via Hanlan's Point.”

I have allowed engineers and promoters, as far as practicable, speak for themselves. My design is to impart in a popular and brief form, for the general citizen's information, so far as available, and necessarily in a general way, so that each one may somewhat intelligently consider all possible systems to supply the city with pure water. I am not offering skilled opinions, nor treating the subject exhaustively, only suggestively. The importance of the subjects, and my interest in, and actual connection with the question for many years, must form my excuse for compiling and submitting to the reader the foregoing pages.

A TRUNK SEWER.

A Trunk Sewer; to carry the sewage of the city to a proper place away from the city and its environs, is a work to be expected, although at present not

very near at hand, and not immediately demanded, in case the Water-works are made satisfactory. The cost of a sewer would be too much now to contemplate, and too much, certainly, to expend by the city in the present condition of the city, and burdensome taxation. There are some aspects of the question that may be noted for the consideration of readers. An important feature is to direct the sewage from the marsh at the mouth of the Don. The soft substance deposited there cover a number of acres, out of which a net-work of reeds grow, hold the foul outflow from the drains and sewers, and from a sanitary point of view, may, under certain conditions, become the origin of an epidemic, menacing the general health of the city. So far, happily, it has not produced very serious results, and it is to be hoped it may never be the occasion of serious or general affliction to the city. The opening of Coatsworth's gap, has no doubt been of immense service in warding off any ill effects that might be feared. The popular idea that a Trun^l Sewer ought to empty in an easterly direction is not necessarily so. It is true, to the extent of nine feet or so, the Don mouth is lower than the Humber, but that is not much if a sewer has to be constructed. The currents now influence the healthiness of the lake water for at least 30 miles west of Toronto, and especially when the wind is from the east. If a sewer could be built so as to throw the *excreta* out a mile or two into the lake, it might not matter much whether the outlet would be east or west. It is important to take it away from the marsh, or what would be as serviceable, may be to fill up the marsh with dry earth from the hills north and east of the city. I examined this question when in the council 15 years ago, and I then had a plan to make alternate canals and streets in the marsh, and fill up the intervals or let the lots to manufacturers at a nominal rental, under conditions that they fill up a certain acreage each year. The time had not come then to demand it, and I abandoned it for the time being. The sewage should be diverted in some way clear of the bay, and save the fouling of the water in the marshes and low places around the island. The sewer should be constructed on the esplanade, as near as may be to the solid earth, to get a foundation if possible without a flow of water, to hinder the work. The idea of running one or more sewers through the entire area of the city from west to east, say on Queen street or Front street ought not to be seriously considered. It would take at least two years to do the work, and no business men on such business streets ought to be asked to suffer such a serious injury to their business as that course would involve. The sewer along the Esplanade would minimize this difficulty. The sewer could be made to decline in a westerly direction, to say the Queen's Wharf, and then across to the Island, and through the Island cut into the lake as far as possible. This, of course, in case the water is procured, as it ought to be, from some cleaner place. If, however, the system adopted in London, England, and other great cities of utilizing the sewage as it can be done, then the sewer would only be necessary to concentrate the contents of the general drains and sewers. This work can be done, or at all events, say when done, be carried on from year to year without any expense to the city.

PROPOSED CIVIC RELIEF.

STATEMENT showing the increase of the debt from year to year, and the rate of taxation, and under whose administration the decrease or increase was made. The only decrease was in 1880, the last year of my Mayoralty. The largest increase was in 1889, Mr. Clarke, Mayor, amounting to \$3,658,188.

YEAR.	LOCAL DEBT.	TOTAL DEBT.	RATE.	MAYOR.	INCREASE.
1878.....	\$ 2,238	\$ 6,216,803	26 mills. (6 mills put in debentures in 1879.)	Morrison	—
1879.....	443,705	6,519,496	17 $\frac{1}{2}$	Beatty	\$ 302,693
1880.....	405,094	6,319,059	17	Beatty	\$ 200,487 (Decrease.)
1881.....	621,292	6,523,688	16 $\frac{1}{2}$	McMurrich	204,549
1882.....	855,251	6,895,638	15 $\frac{1}{2}$	McMurrich	372,080
1883.....	789,951	6,974,289	15 $\frac{1}{2}$	Boswell	78,651
1884.....	1,159,464	7,632,637	15 $\frac{1}{2}$	Boswell	658,348
1885.....	1,112,792	8,220,262	17	Manning	587,625
1886.....	1,384,130	8,845,013	16 $\frac{1}{2}$	Howland	624,751
1887.....	1,561,346	9,894,622	15 $\frac{1}{2}$	Howland	1,049,609
1888.....	1,620,405	10,435,372	14 $\frac{1}{2}$	Clarke	540,750
1889.....	2,583,970	14,093,560	14 $\frac{1}{2}$	Clarke	3,658,188
1890.....	2,726,857	14,134,447	14 $\frac{1}{2}$	Clarke	40,887
1891.....	6,951,809	17,044,182	16 $\frac{1}{2}$	Clarke	2,909,735
1892.....	8,267,928	19,307,281	14 $\frac{1}{2}$	Fleming	2,263,099
1893.....	8,593,589	19,745,942	17 $\frac{1}{2}$	Fleming	438,661
1894.....	9,269,180	20,368,311	16	Kennedy	622,389
1895.....	.....	.....	16 $\frac{1}{2}$	Kennedy	

Mr. Alderman Shaw has been an alderman for eleven years, from 1885 to 1895, both inclusive ; and the debt during that time has increased over \$12,235, 674.

Ex-Mayor Fleming was in the Council as alderman during the years 1888, 1890 and 1891, and as Mayor for 1892 and 1893. During those six years the debt increased \$9,331,320.

What plan did they devise, what effort did they make to stop this great and continued increase ? If the increase had been, in only one year, there might be some excuse ; but extending over eleven years, and six years contemporaneously and without a break, if we except Mayor Clark's year, 1890, what justification can be shown for the enormous increase ? It is sometimes alleged that the local improvement debt was responsible .Not altogether, for the general debt increased every year, down to 1890, and did not thereafter increase to any extent, while from 1889, the local debt went up from \$2,583,975, to \$9,269,180, in 1894. It cannot be, that these gentlemen did not see the rapidity of the growth in the local debt ; and if they did see, where was the strength of such leaders in the Council wasted stemming the tide ? Did they take the public into their con-

fidence, and tell the citizens all about it, and ask them to help in providing a remedy? Surely, if they were acquainted with the history of the city, they could have restored the law as I introduced it, and left it, when the "initiative" was with the ratepayers, directly and financially responsible, instead of allowing the "initiative" to continue in the Engineer's office. This pernicious system produced the mischief. If they had not enough of influence with their colleagues to induce a full consideration of this matter and stop the increasing burden, when are they going to have, or use such influence in similar or other emergencies? As it is, however, the citizens have to face the loss of their properties, and their income largely from over taxation. Make all allowance, for the general depression, and yet we have not a clear explanation of the depreciation in values and the loss of rents. Are the citizens to quietly fold their arms and give up hope? What relief is suggested, by anyone seeking the confidence of their fellow-citizens to place them in the Council? There has been no suggestion; only "grin and bear it." The "bears" are on top; how are they to be thrown off? If experience is what is required, elect City Clerk Blevins, who has had twenty years experience. Immediate relief must be had, or at least fifty per cent., if not twenty-five per cent., of the present owners, will not in five years have a foot of land in the city. Sentiment, however good, when a family is starving, does not always supply bread and beef to meet their wants. Something practical, forcible, and immediate must be had. Why should the present owners of property pay \$10,000,000 for permanent works, or any part of it just now, when property is being practically confiscated? Take the new Court House and City Hall "folly" for an example, which is also the work of the present municipal leaders now before the people, and let any one give a good reason, why the citizens should impoverish themselves to pay a debt for a work which will serve its purpose just as well 100 years hence, as now? Will not the payments of the interest on \$2,000,000, or say \$80,000 a year be sufficient rent for all the service it will render to us. So with the old railway aid, the esplanade, the water-works, the street railway, the Don improvements, etc. Save the sinking fund on that sum for the present at any rate. Local debentures mature in the following years as indicated. Use enough of the \$3,089,576 sinking fund belonging to the local rates to pay off four years of taxation, which will appear in the general, as follows:

1896—Debentures due.....	\$430,273
Sinking fund on general debt.....	260,000

	\$ 690,273
1897—Debentures due.....	\$821,939
Sinking fund.....	260,000

	\$1,081,939
1898—Debentures due.....	\$380,676
Sinking Fund.....	260,000

	\$ 640,674
1899—Debentures Due.....	\$945,658
Sinking Fund.....	260,000

	1,205,658
Total.....	\$ 3,618,544

Local Ratepayers will be relieved from paying next four years. . . . \$ 2,578,544
And General Ratepayer saved from..... 1,040,000

Total..... \$ 3,618,544

General Ratepayer relieved from Sinking Fund on Gen. Debt.....	\$1,040,000
And General Ratepayers share of Local Rates.....	775,821

Local ratepayer will be relieved from paying.....	\$ 1,815,821

Or a Total Relief of.....	2,578,544

	\$ 4,394,365

in the present emergency. If there was no distress, no losses, no beggary in view, this suggestion would not be needed, and would not be presented. These figures are approximately correct only. They are not exact. The result is substantially shown.

Legislation will be required, and unless there is a unanimity in this request, and the City speaks as with one voice, the Legislature will not listen to it; even if it does then. The Legislature ought to, and no doubt will, if no outside interests are prejudiced, and I think it can be satisfactorily shown, they will not be.

Directly, in this connection, I give the reports of Messrs. Wm. Anderson, F.C.A., and W. W. Jones, City Auditors, on the Sinking Fund, to show how it is disposed of:

DEBENTURE DEBT.

The debenture debt of the city on 31st December, 1894, was as follows:

General Debenture Debt.....	\$11,099,131 36
Local Improvement Debenture Debt.....	8,201,452 16
Toronto Railway Debenture Debt.....	1 067,728 57

Total Gross Debenture Debt..... \$20,368,312 09

Deduct cash and debentures at credit of various sinking funds,

Cash.....	\$1,264,930 51
City Debentures purchased with Sinking Fund moneys..	2,427,083 09
Invested in Dominion of Canada stock.....	486 67
Invested in County of Haliburton Debenture.....	1,000 00

\$ 3,693,500 27

Total Net Debenture Debt..... \$16,674,811 82

Net General Debenture Debt.....	\$10,495,207 30
Net Local Improvement Debenture Debt.....	5,187,767 62
Net Toronto Railway Debenture.....	991,836 90

\$16,674,811 82

Other features, such as an extension or more even distribution of the balance of the Local Debt, for the future; limitation on increasing future liabilities; on account of local improvements, and on the general debt. The extension and "conversion" of the general debt, or the issue of stock or \$1,000 debentures at long or short periods, to be determined, which can be invested in by our own people, instead of depositing in Government savings banks, etc.,—would require more time and space than can be usefully spared just now.

A minor but useful suggestion, I would add, as to the "crossings" at King and Yonge, and Yonge and Queen. Every citizen down town must be at times alarmed at the prospect of accidents, which may be of a serious nature, at those corners. To avoid such, or help to avoid such, a simple way is indicated—let, on each street, be constructed a foot pavement crossing, about two cars in length from the present crossings, and women and children at least could cross from street to street with little danger. When some-one is killed, then the living will cry aloud to have so simple a protection provided.

I cannot close this abbreviated statement, relating to important interests of

the city, and I hope the brevity has not occasioned obscurity, they without noting the lucid and intelligible statements of affairs in the different reports of the city officials, and I especially recognize the annual report of the Treasurer (R. T. Coady), and the report of the Assessment Commissioner (N. Maughan). When one gets a little used to them, they become, in themselves, agreeable and interesting reading, though upon digestion, the contents occasion bitterness.

I have to mention with satisfaction, the rapid, careful and skilful work of the publishers and printers, The Hunter, Rose Co., Ltd. Their expeditious and clean work have surprised me.

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